

AIR POLLUTION CONTROL PERMIT TO CONSTRUCT

Pursuant to the Air Pollution Control Rules of the State of North Dakota (Article 33-15 of the North Dakota Administrative Code), the North Dakota Department of Health hereby grants a Permit to Construct for the following facility:

I. General Information:

A. **Permit to Construct Number:** TBD

B. **Source:**

1. Name: Grand Forks Municipal Solid Waste Landfill
2. Location: Area bordered by 54th Avenue N. (on the south), 70th Avenue N. (on the north), 69th Street N. (on the west), 55th Street N. (on the east)
Sec. 13, T152N, R51W
Grand Forks, ND 58203
Grand Forks County
3. Source Type: Landfill
4. Source Classification: Title V

C. **Owner/Operator (Permit Applicant):**

1. Name: City of Grand Forks
2. Address: P.O. Box 5200
Grand Forks, ND 58203

D. **Process Description:**

The City of Grand Forks has proposed to construct a Municipal Solid Waste Landfill (MSWLF) consisting of 10 disposal cells (Cells A-J) totaling approximately 190 acres on a 642 acre tract of land near the city of Grand Forks, ND. The total capacity of the MSWLF will be 11,830,000 cubic yards ($9.045 \times 10^6 \text{ m}^3$) available for Municipal Solid Waste (MSW), which is estimated to provide 80 years of landfill capacity based on an annual waste acceptance rate of 85,000 tons per year (approximately 300 tons/day, 5.5 days/week, 52 weeks/yr). Also on site will be a storage/office building with up to 4 bays for heavy equipment storage, personnel facilities,

continuous methane monitoring, and a control room for readouts of controlled site functions. Additionally, a small pump station building will be located northeast of the storage/office building that houses the infrastructure and electrical equipment necessary to facilitate transmission of collected leachate from the landfill to the Waste Water Treatment Plant (WWTP) for treatment. Other equipment at the facility will include an excavator, a payloader, a bulldozer, dump trucks, water trucks, bale transport truck/trailers, and back-up equipment. A permanent sign will be posted at a gated entrance as the facility will be controlled by lockable gates and chain link fencing.

The municipal solid waste will be baled and enclosed in a woven plastic “bag” at the City’s nearby Baling Facility prior to arriving at the landfill for disposal. The landfill gas emissions are the only significant emission source at the facility containing Nonmethane Organic Compounds (NMOCs), Volatile Organic Compounds (VOCs), and Hazardous Air Pollutants (HAPs), which are produced by microbial degradation of buried refuse. The storage building will be heated with propane fueled infrared heating and supplemental propane fueled forced air units totaling approximately 1.5×10^6 Btu/hr, which is considered an insignificant source of emissions. Best management practices and cover techniques will be used to control fugitive emissions from sources such as truck traffic and waste in place. The landfill will not contain a leachate storage pond, which will facilitate in minimizing potential odors from leachate exposure to the surrounding atmosphere. The facility will install a leachate collection and recirculation system. All leachate sent to the lift station will be pumped to the City’s wastewater treatment plant. Additionally, baled and bagged MSW is generally considered less odorous than open waste. To control potential odors, a six-inch soil cover will be placed over the landfilled bales weekly, and twelve inches of intermediate cover will be placed on all areas where additional solid waste will not be placed within one month.

Table 1
Emission Units

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Municipal solid waste landfill with a total capacity of approximately 9.045×10^6 m ³ (11.83×10^6 yd ³) of waste	1	1	None
Storage/Office Building Heating – Propane fired infrared heating and force air rated at approximately 1.5×10^6 Btu/hr	NA	NA	None
Fugitive Dust Emissions	FUG	FUG	Fugitive Dust Control Condition II. C.

- II. **Conditions:** This Permit to Construct allows the construction and initial operation of the above-mentioned new or modified equipment at the source. The source may be operated under this Permit to Construct until a Permit to Operate is issued unless this permit is

suspended or revoked. The source is subject to all applicable rules, regulations, and orders now or hereafter in effect of the North Dakota Department of Health and to the conditions specified below.

A. **Emission Limits:** Emission limits from the operation of the major source unit(s) identified in Item I.B of this Permit to Construct (hereafter referred to as "permit") are as follows. Minor source units not listed are subject to the applicable emission limits specified in the North Dakota Air Pollution Control Rules.

Emission Unit Description	EU	EP	Pollutant/ Parameter	Emission Limit/Criteria
Municipal solid waste landfill	1	1	NMOC (as Hexane)	<50 Mg/yr*

* Exceeding the emission limit/criteria requires additional monitoring as outlined in Condition II.B.

Applicable Requirement: NDAC 33-15-12-02, Subpart WWW

B. **Monitoring Conditions:**

1. The permittee shall recalculate the NMOC emissions rate annually using Tier 1 procedures specified in 40 CFR Part 60, Subpart WWW, Section 60.754(a)(1). If the estimated NMOC emissions rate is calculated to be equal to or greater than 50 megagrams/yr, the permittee must conduct one of the following actions:
 - a. Submit a collection and control system design plan in accordance with 40 CFR 60, Subpart WWW, 60.752(b)(2)(i) to the Department within one year from the first NMOC emissions rate report in which the emissions rate was exceeded (equal to 50 megagrams/yr or greater). Install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of 40 CFR 60 Subpart WWW, 60.752 within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams/yr.
 - b. Recalculate the NMOC emissions rate using Tier 2 procedures as outlined in 40 CFR 60, Subpart WWW, 60.754(a)(3). The revised NMOC emission rate report, based on Tier 2 procedures, shall be submitted to the Department within 180 days of the first calculated exceedance of 50 megagrams per year using Tier 1 procedures. If the permittee recalculates an NMOC emissions rate less than 50 megagrams/yr using the NMOC concentration determined from Tier 2 procedures, then the annual reporting of the NMOC

emissions rate resumes using the site-specific NMOC concentration. A new site specific NMOC concentration shall be obtained by Tier 2 sampling procedures (emissions test) once every five years from the date of submittal of the previous Tier 2 report.

2. If using the site-specific NMOC concentration obtained from Tier 2 procedures result in an NMOC emissions rate equal to or greater than 50 megagrams/yr, the permittee must conduct one of the following actions:
 - a. Comply with Condition II.B.1.a. of this permit.
 - b. Recalculate the NMOC emissions rate using Tier 3 procedures as outlined in 40 CFR 60, Subpart WWW, 60.754(a)(4). The revised NMOC emissions rate based on Tier 3 procedures shall be submitted to the Department within one year of the first calculated emission rate exceeding 50 megagrams per year using Tier 2 procedures. If the permittee recalculates an NMOC emissions rate less than 50 megagrams per year determined from Tier 3 procedures, then the annual reporting resumes using the site-specific methane generation rate constant obtained in Tier 3 sampling procedures and the NMOC concentration obtained in the Tier 2 sampling procedure. The calculation of the methane generation rate constant is performed only once and the value obtained is used in all subsequent annual NMOC emissions rate calculation. A new site-specific NMOC concentration shall be obtained by Tier 2 sampling procedures (emissions test) once every five years from the date of submittal of the previous Tier 2 report.
3. If using Tier 3 procedures result in the NMOC emissions rate as being equal to or greater than 50 megagrams the permittee shall comply with Condition II.B.1.a. of this permit.

Applicable Requirement: 40 CFR Part 60, Subpart WWW, Section 60.754(a)(2)(i)

C. Fugitive Dust Control:

The permittee shall control Fugitive Dust as follows:

1. Implement watering during land clearing, topsoil and overburden removal, and other material handling operations, unless natural moisture is sufficient to control fugitive particulate emissions.

2. Water stockpiles, both active and inactive, as necessary to control fugitive particulate emissions.
3. Vegetate inactive stockpiles and closed landfill surfaces within one year of disturbance.
4. Water unpaved on-site haul roads as often as necessary to control fugitive particulate emissions.
5. Limit vehicle speeds on unpaved roads and disturbed areas to 20 mph on-site.
6. Minimize the size of the working face.
7. Minimize the total disturbed area on-site.
8. Apply 6 inches of soil cover to disposed solid waste on a weekly basis. The application weekly and intermediate soil cover on the bagged bales shall serve to control fugitive particulate emissions, odor production, and accumulation of litter. If the planned operations are shown to be ineffective in controlling any of the mentioned issues, remedial action shall be taken on a case by case basis.

- D. **Construction:** Construction of the above described facility shall be in accordance with information provided in the permit application as well as any plans, specifications and supporting data submitted to the Department. The Department shall be notified ten days in advance of any significant deviations from the specifications furnished. The issuance of this Permit to Construct may be suspended or revoked if the Department determines that a significant deviation from the plans and specifications furnished has been or is to be made.

Any violation of a condition issued as part of this permit to construct as well as any construction which proceeds in variance with any information submitted in the application, is regarded as a violation of construction authority and is subject to enforcement action.

Applicable Requirement: NDAC 33-15-14-02

- E. **Startup Notice:** A notification of the actual date of initial startup shall be submitted to the Department within 15 days after the date of initial startup.

Applicable Requirement: NDAC 33-15-12

- F. **Permit Invalidation:** This permit shall become invalid if construction is not commenced within eighteen months after issuance of such permit, if construction is discontinued for a period of eighteen months or more; or if construction is not completed within a reasonable time.

Applicable Requirement: NDAC 33-15-14-02.10.b

- G. **Fugitive Emissions:** All reasonable precautions shall be taken by the owner/operator to prevent and/or minimize fugitive emissions from the construction and operation of the source identified under Item I.B.

Applicable Requirement: NDAC 33-15-03

- H. **Annual Emission Inventory/Annual Production Reports:** The owner/operator shall submit an annual emission inventory report or an annual production report, upon request, on forms supplied or approved by the Department.

Applicable Requirement: NDAC 33-15-14-02.9.d

- I. **Source Operations:** Operations at the installation shall be in accordance with statements, representations, procedures and supporting data contained in the initial application, and any supplemental information or application(s) submitted thereafter. Any operations not listed in this permit are subject to all applicable North Dakota Air Pollution Control Rules.

Applicable Requirement: NDAC 33-15-14-02

- J. **Alterations, Modifications or Changes:** Any alteration, repairing, expansion, or change in the method of operation of the source which results in the emission of an additional type or greater amount of air contaminants or which results in an increase in the ambient concentration of any air contaminant, must be reviewed and approved by the Department prior to the start of such alteration, repairing, expansion or change in the method of operation.

Applicable Requirement: NDAC 33-15-01-13.2

- K. **Recordkeeping:** The owner/operator shall maintain any compliance monitoring records required by this permit or applicable requirements. The owner/operator shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report or application. Support information may include all calibration and maintenance records and all original strip-chart recordings/computer printouts for continuous monitoring instrumentation, and copies of all reports required by the permit.

Applicable Requirements: NDAC 33-15-12 and NDAC 33-15-14-02.9.d

- L. **Nuisance or Danger:** This permit shall in no way authorize the maintenance of a nuisance or a danger to public health or safety.

Applicable Requirements: NDAC 33-15-02-03, 33-15-02-04.3, 33-15-15-01, and 33-15-17-01.2

- M. **Malfunction Notification:** The owner/operator shall notify the Department of any malfunction which can be expected to last longer than twenty-four hours and can cause the emission of air contaminants in violation of applicable rules and regulations.

Applicable Requirement: NDAC 33-15-01-13.2

- N. **Change of Ownership:** This permit may not be transferred and is to be returned to the Department upon the destruction or change of ownership of the source unit(s), or upon expiration, suspension or revocation of this permit.

Applicable Requirements: NDAC 33-15-14-02.10.a

- O. **Right of Entry:** Any duly authorized officer, employee or agent of the North Dakota Department of Health may enter and inspect any property, premise or place at which the source listed in Item I.B of this permit is located at any time for the purpose of ascertaining the state of compliance with the North Dakota Air Pollution Control Rules. The Department may conduct tests and take samples of air contaminants, fuel, processing material, and other materials which affect or may affect emissions of air contaminants from any source. The Department shall have the right to access and copy any records required by the Department's rules and to inspect monitoring equipment located on the premises.

Applicable Requirements: NDAC 33-15-14-06.5.c(2) and NDAC 33-15-01-06

- P. **Permit Issuance:** This permit is issued in reliance upon the accuracy and completeness of the information set forth in the application. Notwithstanding the tentative nature of this information, the conditions of this permit herein become, upon the effective date of this permit, enforceable by the Department pursuant to any remedies it now has, or may in the future have, under the North Dakota Air Pollution Control Law, NDCC Chapter 23-25. Each and every condition of this permit is a material part thereof, and is not severable.

Applicable Requirement: NDAC 33-15-14-02

- Q. **Odor Restrictions:** The owner/operator shall not discharge into the ambient air any objectionable odorous air contaminant which is in excess of the limits established in NDAC 33-15-16.

Applicable Requirements: NDAC 33-15-16

- R. **Sampling and Testing:** The Department may require the owner/operator to conduct tests to determine the emission rate of air contaminants from the source. The Department may observe the testing and may specify testing methods to be used. A signed copy of the test results shall be furnished to the Department within 60 days of the test date. The basis for this condition is NDAC 33-15-01-12 which is hereby incorporated into this permit by reference. To facilitate preparing for and conducting such tests, and to facilitate reporting the test results to the Department, the owner/operator shall follow the procedures and formats in the Department's Emission Testing Guideline.

Applicable Requirement: NDAC 33-15-01-12

FOR THE NORTH DAKOTA
DEPARTMENT OF HEALTH

Date _____

By _____
Terry L. O'Clair, P.E.
Director
Division of Air Quality