Manitoba
Environment and Climate Change
Environmental Approvals Branch
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File No.: 18778.00

February 19, 2025

John Amos
Public Works Manager
Local Government District of Pinawa
P.O. Box 100 36 Burrow Road
Pinawa MB R0E 1L0
pwmanager@pinawa.com

Dear John Amos:

Re: Pinawa Waste Disposal Ground Permit No. 35948 P2 – Construction Approval

Thank you for your request dated July 16, 2024, and additional information received on September 10, 2024. The department understands you wish to vertically expand a waste cell at Pinawa Waste Disposal Ground as per the design plans submitted on July 16, 2024, and revised design plan submitted on September 10, 2024. Schedule A of this approval letter provides the layout drawing. It is our understanding that the landfill has a leachate pond to manage leachate collected from the cell where vertical expansion is proposed.

I approve the amendment per Section 7(a) of the Waste Management Facilities Regulation with the following conditions:

The operator must:

1. follow clauses 14 to 24 of the permit for the construction of vertical cell expansion;
2. provide written notice to an environment officer at least 5 days and not more than 10 days before construction begins on the cell expansion;
3. not allow waste to be placed in the new cell expansion unless the operator received a written authorization from an environment officer or the director; and
4. only allow waste to be placed in the new cell up to the maximum design height of the cell (i.e., 5.73 m or 18.79 ft above the top of the berm) as per the revised design plan submitted on September 10, 2024.

All other clauses of permit No. 35948 P2 remain in effect.

…2

If you have any questions regarding this approval, please contact Desalegn Edossa, Environmental Engineer, Environmental Approvals Branch at Desalegn.Edossa@gov.mb.ca or 204-945-7021.

For questions relating to the ongoing administration of the licence, please contact Allan Cyrenne, A/Regional Supervisor, Environmental Compliance and Enforcement Branch at EnvCEEastern@gov.mb.ca or 204-485-6410.

Sincerely,

Original Signed By
Agnes Wittmann
Director
The Environment Act

c. Allan Cyrenne
Desalegn Edossa

Schedule A

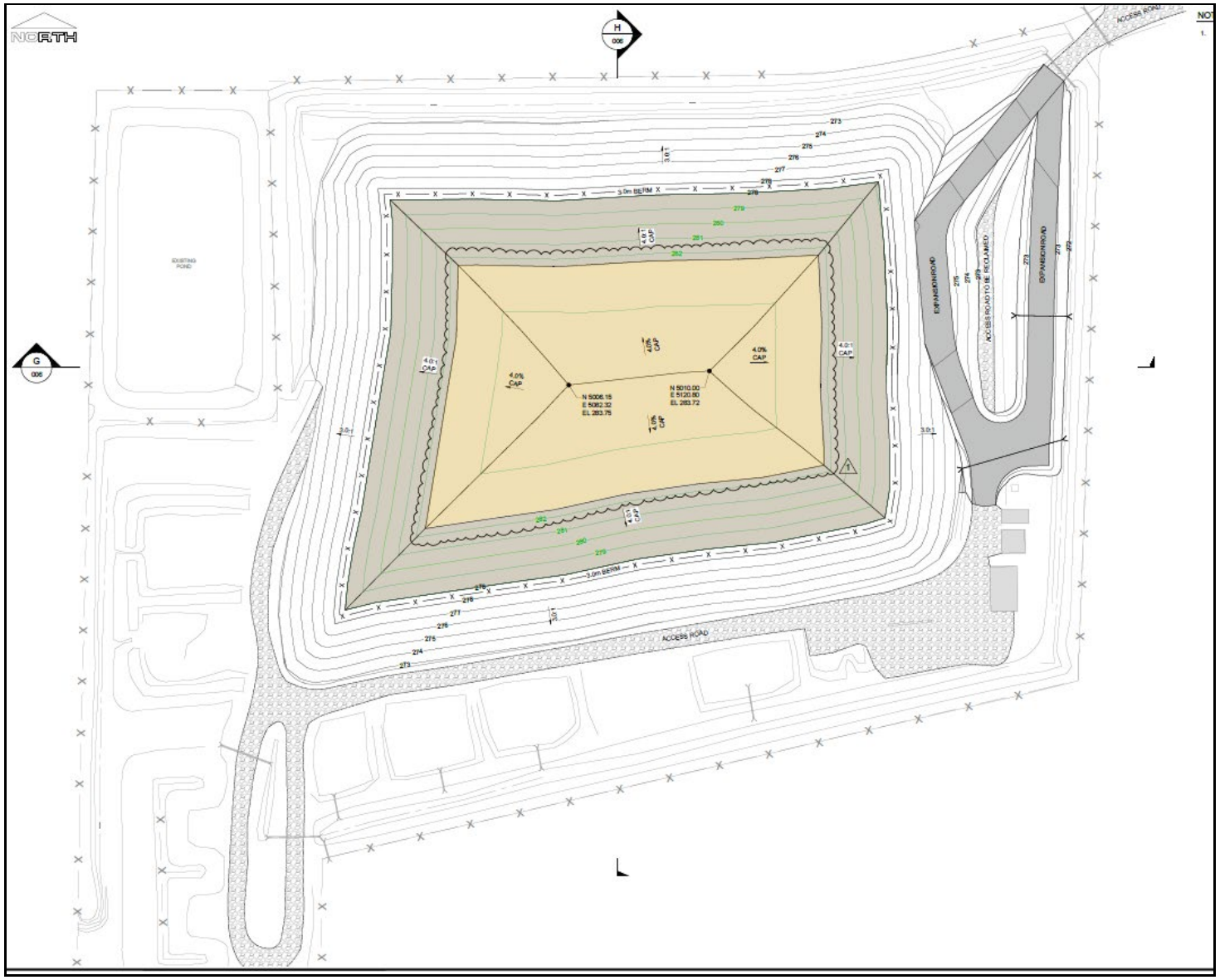

Figure 1: Facility Layout Drawing

Waste Disposal Ground Operating Permit

Manitoba
Environment and Climate Change

File No. : 18778

Permit No.: 35948 P2
Issue Date: August 30, 2024

Following the Waste Management Facilities Regulation under The Environment Act, the Local Government District (L.G.D.) of Pinawa is hereby permitted to run Pinawa Waste Disposal Facility on portions of W 13-14-11 EPM in the L.G.D. of Pinawa, Manitoba. Schedule A of this permit identifies the facility.

This permit is subject to being amended, suspended, or revoked under sections 7 and 9 of the Waste Management Facilities Regulation.

General Terms and Operating Conditions

1. This permit expires on August 30, 2029.

2. The operator must maintain and operate the facility following the Waste Management Facilities Regulation and any future amendments, and this permit.

3. The operator must:
   a) review and update the operations manual at least every five years, or at an earlier time if required by the director; and
   b) submit the operations manual to the director or environment officer upon request.

4. The operator must obtain approval in writing from the director before altering the facility.

Site Access and Control

5. The operator must restrict access to the facility when site supervision is not provided, with a locked gate, barrier or other system approved in writing by an environment officer.

Materials Acceptance and Handling

6. The operator must:
   a) segregate materials collected for recycling or reuse;
   b) temporarily stockpile these materials in designated areas with clear signage; and
   c) must maintain these areas to control weeds, vectors, and the quality of the materials.

7. The operator must remove the materials identified in clause 6 of this permit regularly or upon the request of an environment officer, within the timeframe specified.

8. The operator must remove any litter accumulated along the access road and around the perimeter of the site. Litter collection must occur at minimum twice annually or as required by an environment officer.

9. The operator:
   a) may accept less than ten tonnes of dead animals from a single source or event at the facility provided that they are buried immediately with a minimum one-metre cover or as approved by an environment officer;
   b) may accept more than ten tonnes of dead animals upon receiving written approval from an environment officer; and
   c) must not receive any material that is defined as specified risk material by the Canadian Food Inspection Agency without written approval from an environment officer.

Asbestos Disposal

10. The operator must dispose of asbestos or asbestos-containing material following the most current version of the Guideline for Asbestos Disposal at a Landfill.

11. The operator must:
    a) keep a record, by Global Positioning System (GPS), of the locations, the amount of deposition, and the burial depth of buried asbestos; and
    b) provide the record to an environment officer upon request.

Placement and Cover

12. The operator may use material other than soil to cover the active area upon receiving written approval from the director or the environment officer.

Surface Water Management

13. The operator must construct the facility such that all uncontaminated surface water flows to the perimeter ditch and impacted water from all material storage areas is contained within the facility boundaries.

Site Construction and Upgrading

14. The operator must have all waste disposal cells, modifications, or alterations designed by and construction overseen by an engineer.

15. The operator must, before beginning any construction at the facility, submit an electronic copy of the final engineering design plans, sealed by an engineer, to the designated environment officer. The plans will show the engineering details of each new or altered component and the location of each new or altered component relative to other components.

16. The operator must construct the facility following the design plans submitted to the designated environment officer following clause 15 of this permit and subject to any terms and conditions set by the designated environment officer.

17. Notwithstanding clause 16 of this permit, construction must be subjected to the following conditions:
    a) the operator must provide for testing of all clay liners and cut-off walls by a qualified consultant to confirm that compaction is 95% Standard Proctor Density on maximum lifts of 0.15 m (150 mm); and
    b) all active areas or leachate containment developed from or with clay must be constructed to achieve a hydraulic conductivity of not more than $1x10^{-7}$ cm/s with a minimum thickness of one metre perpendicular to the surface. If appropriate or sufficient clay is not available an alternative proposal must be submitted to the designated environment officer for written approval before construction.

18. The operator must, unless approved by the designated environment officer, arrange with the designated environment officer a mutually acceptable time and date for any required soil sampling between the 15th day of May and the 15th day of October of any year.

19. The operator must, following Schedule B of this permit, take and test undisturbed soil samples from:
    a) the clay of new waste disposal cell(s);
    b) leachate ponds; and
    c) any clay component of the facility requiring testing by the designated environment officer.

20. The number and location of samples and test methods will be specified by the designated environment officer up to a maximum of 20 samples per cell or clay component of the facility.

21. The operator must, not less than two weeks before using any component of the facility as referenced in clause 19 of this permit, submit for the approval of the designated environment officer the results of the tests carried out following clause 19 of this permit.

22. The operator must:
    a) prepare record drawings of the facility and must label the drawings “record drawings”; and
    b) submit "record drawings" along with a construction report to the designated environment officer within 120 days of the completion of construction of the facility.

       The construction report must include the following:
       (i) the engineer’s inspection dates and notes;
       (ii) density measurements (for clay lined facility); and
       (iii) updated site plan showing the new cell, monitoring well installation logs, locations, and background water samples (if applicable).

Burning of Specified Waste

23. The operator must only burn:
    a) separated and readily combustible materials such as boughs, leaves, loose straw, paper products, cardboard, non-salvageable untreated wood, and packing materials derived from wood; and
    b) when there is an appropriate volume of materials as identified in clause 23 a) of this permit.

Composting

24. The operator must, unless approved by an environment officer, compost only yard waste, leaf waste, kitchen, and household waste.

Monitoring and Reporting Requirements

25. The operator must collect, store, and analyze groundwater monitoring well samples using approved field and laboratory techniques for dissolved analysis. The operator must retain the analytical results in a format acceptable to the environment officer.

26. The operator must sample the groundwater monitoring wells for those parameters identified in Schedule C of this permit once per year, or at a frequency approved by the environment officer.

27. The operator must submit an annual report, in a format acceptable to the environment officer, detailing the sampling methodology, field observations, and results of groundwater sampling analyses, complete with previous results and trends. The operator must submit the report annually to an environment officer no later than December 31st of each year.

Revocation

28. This permit replaces Permit No. 35948 P1, which is expired.

Original Signed By
Agnes Wittmann
Director
The Environment Act

Schedule A to Permit No. 35948 P2

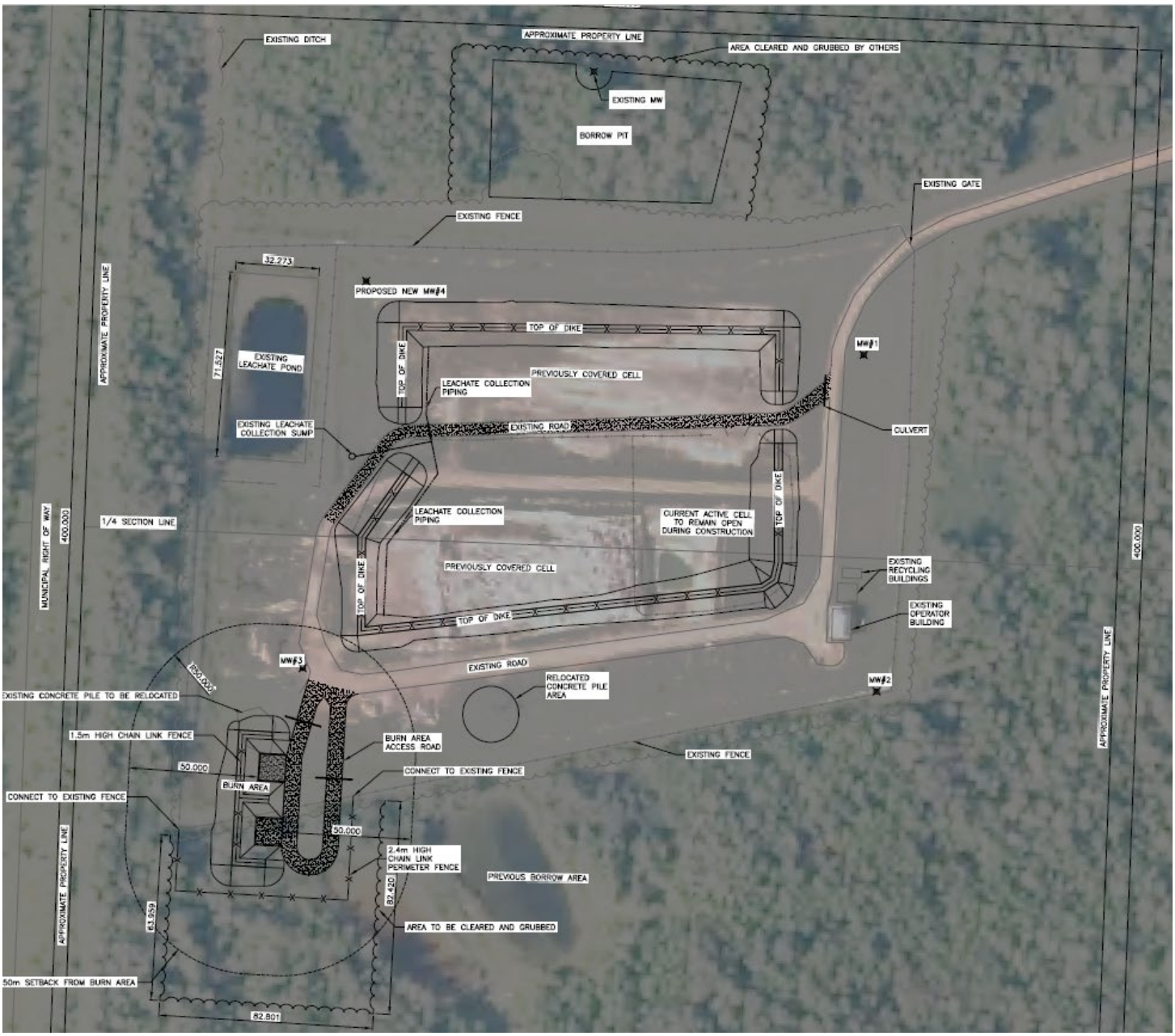

Figure 1 Pinawa Waste Disposal Facility Layout

Schedule B to Permit No. 35948 P2
Soil sampling following clause 19 of this permit

Soil Sampling

1. The licensee must provide a drilling rig, acceptable to the designated environment officer, to extract soil samples from the specified liner of the structure. This includes all liners constructed with clay. The drill rig must have the capacity to drill to the maximum depth of the clay liner plus an additional 2 metres. The drill rig must be equipped with both standard and hollow stem augers. The minimum hole diameter must be five inches.

2. For liners placed or found at the surface of the structure, the licensee must provide a machine, acceptable to the designated environment officer, capable of pressing a sampling tube into the liner in a straight line motion along the centre axis line of the sample tube and without sideways movement.

3. Soil samples must be collected and shipped following ASTM Standard D 1587 (Standard Practice for Thin-Walled Tube Sampling of Soils), D 4220 (Standard Practice for Preserving and Transporting Soil Samples), and D 3550 (Standard Practice for Ring-Lines Barrel Sampling of Soils). Thin-walled tubes must meet the stated requirements including length, inside clearance ratio, and corrosion protection. An adequate venting area must be provided through the sampling head.

4. At the time of sample collection, the designated environment officer must advise the licensee as to the soil testing method that must be used on each sample. The oedometer method may be used for a sample where the environment officer determines that the soil sample is taken from undisturbed clay soil which has not been remoulded and which is homogeneous and unweathered. The triaxial test must be used for all samples taken from disturbed and remoulded soils or from non-homogenous and weathered soils.

5. The licensee must provide a report on the collection of soil samples to the designated environment officer and to the laboratory technician which includes but is not limited to a plot plan indicating sample location, depth or elevation of sample, length of the advance of the sample tube length of soil sample contained in the tube after its advancement, the soil test method specified by the environment officer for each soil sample and all necessary instructions from the site engineer to the laboratory technician.

6. All drill and sample holes must be sealed with bentonite pellets after the field drilling and sampling have been completed.

Schedule B to Permit No. 35948 P2
Soil sampling following clause 19 of this permit
(continued)

Soil Testing Methods

1. Triaxial Test Method

    a) The soil samples must be tested for hydraulic conductivity using ASTM D 5084 (Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter).

    b) Soil specimens must have a minimum diameter of 70 mm (2.75 inches) and a minimum height of 70 mm (2.75 inches). The soil specimens must be selected from a section of the soil sample which contains the most porous material based on a visual inspection. The hydraulic gradient must not exceed 30 during sample preparation and testing. Swelling of the soil specimen should be controlled to adjust for: the amount of compaction measured during sample collection and extraction from the tube and the depth or elevation of the sample. The effective stress used during saturation or consolidation of the sample must not exceed 40 kPa (5.7 psi) or the specific stress level, that is expected in the field location where the sample was taken, whichever is greater.

    c) The complete laboratory report, as outlined in ASTM D 5084, must be supplied for each soil sample collected in the field.

2. Oedometer Test Method

    a) The soil samples must be tested for hydraulic conductivity using ASTM D 2435 (Standard Test Method for One-Dimensional Consolidation Properties of Soils).

    b) Soil specimens must have a minimum diameter of 50 mm (2 inches) and a minimum height of 20 mm (0.8 inches). The soil specimens must be selected from a section of the soil sample which contains the most porous material based on a visual inspection. The soil specimen must be taken from an undisturbed soil sample. The soil specimen must be completely saturated.

    c) The complete laboratory report, as outlined in ASTM D 2435, must be supplied for each soil sample collected in the field

Schedule C to Permit No. 35948 P2
Groundwater chemistry parameters following clause 26 of this permit

Chemical Parameters		
Inorganics		
Alkalinity – Total		Magnesium – Dissolved
Ammonia – Total		Manganese – Dissolved
Arsenic – Dissolved		Mercury – Dissolved
Barium – Dissolved		Nitrate - Reported as N
Boron – Dissolved		Nitrite - Reported as N
Cadmium – Dissolved		Total Kjeldahl Nitrogen - Reported as N
Calcium – Dissolved		Total Phosphorous
Calcium Carbonate		Potassium – Dissolved
Chloride		Silicon – Dissolved
Chromium – Dissolved		Sodium – Dissolved
Conductivity		Total Dissolved Solids (TDS)
Copper – Dissolved		Sulphate
Iron – Dissolved		Uranium – Dissolved
Lead – Dissolved		Zinc – Dissolved
Volatile Organic Compounds (VOCs)		
BTEX		
Other Organics		
Biological Oxygen Demand (BOD)		Chemical Oxygen Demand (COD)
Dissolved Organic Carbon (DOC)		
Field Parameters		
pH		Groundwater Elevation
Conductivity		Dissolved Oxygen
Temperature		

Note: The director may revise this schedule. All dissolved samples should be filtered in the field and preserved in the field at the time of sampling. The operator must notify the director and the laboratory for dissolved samples not filtered and preserved in the field.