



MINISTRY OF ENVIRONMENT,
LANDS AND PARKS

PERMIT
PR02205

Under the Provisions of the Waste Management Act

Harmac Pacific Inc.
3000 Royal Centre, PO Box 11130
1055 West Georgia Street
Vancouver, British Columbia
V6E 3R3

is authorized to discharge refuse from the Harmac Pacific Inc. pulp mill and Island Phoenix sawmill located at Nanaimo, British Columbia to the land, subject to the conditions listed below. Contravention of any of these conditions is a violation of the Waste Management Act and may result in prosecution.

1. AUTHORIZED DISCHARGES

1.1 The discharge of refuse to which this subsection is applicable is from a pulp mill and sawmill as shown on the attached Site Plan A. The B.C. Environment reference number (S.E.A.M. site number) for this discharge is 0140200.

1.1.1 The maximum rate at which refuse may be discharged is 82 500 m³/a.

1.1.2 The components of the refuse which may be discharged are:

dredgate	waste lime
slaker grits	power boiler grate ash
green liquor dregs	woodroom and flyash clarifier sludge
wood residue	lime kiln bricks
mineral soil	construction rubble
scrap metal	plastic debris
effluent treatment plant sludge	

All of these components originate from the pulpmill with the exception of dredgate which may originate from either the sawmill or pulpmill.

R.A. Bollans, P. Eng.
Assistant Regional Waste Manager

Date issued: December 4, 1974

Amendment Date:
(most recent) JUN 23 1995

Page: 1 of 6

PERMIT NO. : PR02205

1.1.3 The works authorized are a landfill operation as directed and a leachate collection and conveyance system approximately located as shown on the attached Site Plan A.

1.1.4 The works authorized must be complete and in operation in accordance with the following schedule:

(a) Phase 1, 2 and 2A of the landfill operation on and from the date of this amended permit;

(b) Phase 3 and 4 of the landfill operation as specified in subsection 2.6.

1.1.5 The location of the facilities from which the discharge originates is Lot 137, 216 and 385, Nanaimo Land District; Sections 2 and 3, Range 8, Nanaimo Land District; Sections 21, 22 and 23, Range 1, Cedar Land District; and Section 23, Range 2, Cedar Land District.

1.1.6 The location of the point of discharge (Phases 1, 2A, 2, 3 and 4) is Sections 21 and 22 on Range 1 and Sections 20, 21 and 22 of Range 2 - Cedar Land District; which is approximately 1200 feet West and 700 feet North in Section 22, Range 1, 600 feet East and 180 feet North in Section 22, Range 2, and 1200 feet South of Section 21, Range 1 from intersection of Sections 22 and 21, Ranges 1 and 2, and 2400 feet East of the intersection of Sections 21 and 20, Ranges 1 and 2, encompassing 2/3 of Section 20, Range 2 in a Southward direction to the border of Section 20, Range 3. The entire area is approximately 1200 feet and 2400 feet South of the existing foreshore of the Harmac Pacific Inc. pulpmill.

2. GENERAL REQUIREMENTS

2.1 Maintenance of Works and Emergency Procedures

The permittee shall inspect the pollution control works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the permittee which prevents continuing operation of the approved method of pollution control, the permittee shall immediately notify the Regional Waste Manager and take appropriate remedial action.



R.A. Bollans, P. Eng.
Assistant Regional Waste Manager

2.2 Landfill Operation

- (a) The permittee shall maintain the landfill authorized in Section 1 as a Level A operation in accordance with the *Pollution Control Objectives for the Forest Products Industry of British Columbia*, dated November 23, 1977, with the exception that intermediate covering of refuse is not required at this time.
- (b) Waste lime and slaker grits shall be segregated from other wastes and discharged to an area of the landfill acceptable to the Regional Waste Manager.
- (c) No refuse shall be placed within 15 m of the property lines associated with Phase 3 and 4 as shown on the attached Site Plan A. No refuse shall be placed within 15 m of any surface water diversion ditch. The ditches shall be maintained in good working order.
- (d) The completed portion of the landfill surface shall be graded in a manner to promote the runoff of surface water without causing unacceptable erosion.
- (e) A final layer of at least 0.6 m of suitable cover material shall be placed over each completed phase of the landfill.
- (f) Additional operating instructions may be issued by the Regional Waste Manager.

2.3 Site Preparation and Restoration

Provision of fencing, site access, vehicle safety barriers, surface water diversionary works, firebreaks and site restoration as required, shall be carried out to the satisfaction of the Regional Waste Manager.

2.4 Waste Reduction and Alternative Disposal

The Ministry of Environment, Lands and Parks has developed a policy to reduce, recycle and reuse solid wastes. The permittee is encouraged to segregate for recycling and reuse, where possible, materials destined for disposal at this site.



R.A. Bollans, P. Eng.
Assistant Regional Waste Manager

2.5 Upgrading of Works

Based on receiving environment monitoring data and/or other information obtained in connection with this discharge, the permittee may be required to provide additional leachate collection and surface water diversion works.

2.6 Phases 3 and 4

Prior to the commencement of Phases 3 and 4 the permittee shall submit a comprehensive report which shall include but is not limited to the following:

- a) a hydrogeologic study of the area;
- b) the number and location of additional groundwater monitoring wells;
- c) a proposal for an extended leachate collection system.

The report shall be submitted to the Regional Waste Manager and his approval obtained prior to the discharge of refuse to these areas.

3. MONITORING AND REPORTING REQUIREMENTS

3.1 Discharge Monitoring

3.1.1 Flow Measurement

Provide and maintain a suitable flow measuring device(s) and record once per week the leachate volume discharged from the leachate collection system over a 24-hour period.

3.2 Groundwater Monitoring

3.2.1 Groundwater Monitoring Wells

The permittee shall maintain a maximum of four groundwater monitoring wells during the operation of Phases 1, 2 and 2A. The exact number, locations, and piezometer sampling depths of these wells and any additional groundwater monitoring wells required in subsection 2.6 are subject to the approval of the Regional Waste Manager.



R.A. Bollans, P. Eng.
Assistant Regional Waste Manager

3.2.2 Sampling and Analysis

During April and September each year, the permittee shall collect samples from the groundwater monitoring wells required in Section 3.2.1 and obtain analyses of the samples for the following:

Chemical Oxygen Demand
Phenols
Tannins and Lignins
pH
Specific Conductance
Total and Dissolved Aluminum
Total and Dissolved Copper
Total and Dissolved Iron
Total and Dissolved Magnesium
Total and Dissolved Manganese
Total and Dissolved Zinc
Chloride
Acidity

The first set of samples is to be collected by September 30, 1995.

Based on the results of the monitoring program and/or other information the Regional Waste Manager may require the permittee to alter or extend the sampling and monitoring program.

3.3 Monitoring Procedures

3.3.1 Sampling And Analytical Procedures

Sampling and flow measurement shall be carried out in accordance with the procedures described in "Field Criteria for Sampling Effluents and Receiving Waters", April 1989 or by suitable alternative procedures as authorized by the Regional Waste Manager.

Copies of the above manual are available from the Environmental Protection Division, Ministry of Environment, Lands and Parks, 777 Broughton Street, Victoria, British Columbia, V8V 1X4, at a cost of \$20.00, and are also available for inspection at all Environmental Protection offices.



R.A. Bollans, P. Eng.
Assistant Regional Waste Manager

Analyses are to be carried out in accordance with procedures described in the latest version of "British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials, (March 1994 Permittee Edition)", or by suitable alternative procedures as authorized by the Regional Waste Manager.

Copies of the above manual may be purchased from Queens Printer Publications Centre, 2nd Floor, 563 Superior Street, Victoria, British Columbia, V8V 4R6 (1-800-663-6105). A copy of the manual is also available for inspection at all Environmental Protection offices.

3.3.2 Reporting

An annual report shall be prepared by the permittee and submitted to the Regional Waste Manager. The report shall include, but is not limited to, the following items:

- a) volume of refuse discharged in the reporting period;
- b) volume of each major constituent of the refuse discharged during the reporting period;
- c) remaining capacity of the phase in active use;
- d) monitoring data and interpretation;
- e) operational plan for the following 12 months;
- f) closure plans.

The first report is to be submitted by December 31, 1995.



R.A. Bollans, P. Eng.
Assistant Regional Waste Manager

