

VICTORIA GOVERNMENT

# G A Z E T T E

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**SPECIAL**

*Environment Protection Act 1970*

## STATE ENVIRONMENT PROTECTION POLICY (SITING AND MANAGEMENT OF LANDFILLS RECEIVING MUNICIPAL WASTES)

*Environment Protection Act 1970*

STATE ENVIRONMENT PROTECTION POLICY

(SITING AND MANAGEMENT OF LANDFILLS  
RECEIVING MUNICIPAL WASTES)

The Governor in Council under Section 16(1) of the *Environment Protection Act 1970* and on the recommendation of the Environment Protection Authority declares with effect on and from 1 July 1991 the following State Environment Protection Policy (Siting and Management of Landfills Receiving Municipal Wastes).

Dated: 28 May 1991

Responsible Minister:

STEVE CRABB

Minister for Conservation and Environment

JILL BRENNAN

Acting Clerk of the Executive Council

STATE ENVIRONMENT PROTECTION POLICY

(SITING AND MANAGEMENT OF LANDFILLS  
RECEIVING MUNICIPAL WASTES)

1. This Order may be cited as the State Environment Protection Policy (Siting and Management of Landfills receiving Municipal Wastes).

2. This Policy is divided into parts as follows:

- Part I — Preliminary
- Part II — Boundaries of the area affected
- Part III — Beneficial uses to be protected
- Part IV — Indicators and objectives
- Part V — Attainment program
- Part VI — Related activities
- Schedule A — Landfill site development standards, landfill site operating standards and landfill site completion and rehabilitation standards.

PART I—PRELIMINARY

3. In this policy, unless inconsistent with the context or subject matter:

"Act" means the *Environment Protection Act 1970* as amended.

"Aquifer" means a subsurface geological structure which is or may be permeated permanently or intermittently with water.

"Attenuation Zone" means a part of an aquifer adjacent to the tipping area in which indicators are attenuated.

"Authority" means the Environment Protection Authority constituted under the Act.

"Beneficial Use" means a use of the environment or any element or segment of the environment which—

- (a) is conducive to public benefit, welfare, safety, health or aesthetic enjoyment and

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which requires protection from the effects of waste discharges, emissions or deposits or of the emission of noise; or

- (b) is declared in State environment protection policy to be a beneficial use.

"Buffer Distance" means the distance between the tipping area of a landfill site and a segment of the environment to be protected.

"Controlled Attenuation" means removal or partial removal of contaminants from leachate by lining a tipping area with attenuating materials.

"Cover Material" means dense, inert and incombustible material.

"Day of Delivery" means the day of delivery to a landfill site of domestic garbage from a regular collection service.

"Extractive Industry Site" means a pit or a quarry resulting from the extraction of rock, gravel, sand, clay, or other minerals.

"Groundwater" means any water contained in or occurring in an aquifer.

"Indicator" means any physical, chemical or biological characteristic or substance used as a measure of environmental quality.

"Landfill Cell" means a compartment within a tipping area in which waste is deposited, and enclosed by cover material.

"Landfill Site" means a site for the disposal of municipal wastes to land.

"Leachate" means contaminated water which has percolated through or drained from municipal wastes.

"Licence" means a licence issued under the Act.

"Litter" means any solid substance or object, which has been or may be blown by the wind beyond the perimeter of the landfill site.

"Municipal Waste" includes putrescible wastes and solid inert wastes from manufacturing, commercial, processing and service industries and waste generated within residential dwellings, but does not include liquid wastes, night-soil, or grease trap waste.

"Noise sensitive area" means:

- (a) that part of the land within the apparent boundaries of any piece of land which is within a distance of 10 metres outside the external walls of any of the following buildings—

Dwelling (except Caretaker's House)  
Residential Building; or

- (b) that part of the land within the apparent boundaries of any piece of land on which is situated any of the following buildings which is within a distance of 10 metres outside the external walls of any dormitory, ward or bedroom of such buildings—

Caretaker's House  
Hospital  
Hotel

Institutional Home  
Motel  
Reformatory Institution  
Tourist Establishment  
Work Release Hostel

"Objective" means a level of an indicator prescribed for the protection of a beneficial use.

"Open Burning" means the burning of wastes in the open without any control of air emissions to the atmosphere.

"Putrescible Waste" means waste able to be decomposed by bacterial action.

"Regional Refuse Disposal Group" means a group consisting of two or more municipal councils constituted pursuant to the *Local Government Act* 1958.

"Residential Area" means an area zoned for residential purposes under a planning scheme.

"Rural Landfill Site" means a landfill site serving a population of equal to or less than 5,000 persons.

"Site Perimeter" means the boundary of the land which contains a tipping area.

"Solid Inert Waste" means hard waste and dry vegetative material and which has a negligible activity or effect on the environment.

"Surface waters" includes—

- (1) (a) a river, creek, stream or watercourse;
  - (b) a natural channel in which water regularly flows, whether or not the flow is continuous;
  - (c) a channel formed wholly or partly by the alteration or relocation of a waterway as described in paragraph (a) or (b);
  - (d) a lake, lagoon, swamp or marsh, being—
    - (i) a natural collection of water (other than water collected and contained in a private dam or a natural depression on private land) into or through or out of which a current that forms the whole or part of the flow of a river, creek, stream or water-course passes, whether or not the flow is continuous;
    - (ii) a collection of water (other than water collected and contained in a private dam or a natural depression on private land) that the Governor in Council declares under section 4 (1) of the *Water Act* 1989 to be a lake, lagoon, swamp or marsh;
  - (e) land on which, as a result of works constructed on a waterway as described in paragraph (a), (b) or (c), water collects regularly, whether or not the collection is continuous;
  - (f) land which is regularly covered by water from a waterway as described in paragraph

(a), (b), (c), (d) or (e) but does not include any artificial channel or work which diverts water away from such a waterway;

(g) if any land described in paragraph (f) forms part of a slope rising from the waterway to a definite lip, the land up to that lip; or

(2) the coast, and in particular the coast of any bay, estuary or inlet and any waters that may be present in these landforms or bounded by them.

(3) Waters in waste treatment systems, enclosed water supply distribution systems, piped or underground drains and aquifers are excluded.

"Tipping Area" means a place within a landfill site in which municipal wastes are, have been or will be deposited.

"Total Containment" means the disposal techniques by which all leachate generated within the landfill site is collected and contained.

"Toxicant" means a substance which is poisonous to living things.

"Trench and Fill" means the disposal technique by which municipal wastes are deposited in a trench.

"Urban Landfill Site" means a landfill site serving a population of greater than 5,000 persons.

"Waste Management Plan" means a plan or series of plans for the disposal of municipal waste, adopted by a municipal council, or a general plan adopted by a Regional Refuse Disposal Group.

"Works Approval" means an approval of works issued under the Act.

#### 4. Policy goal

The goals of this policy are to protect existing and anticipated beneficial uses of segments of the air environment, surface waters and groundwaters and protect residents and the environment from off-site effects arising from landfills receiving municipal wastes and to promote waste minimisation and resource recovery.

#### PART II—BOUNDARIES OF THE AREA AFFECTED

5. (a) The policy shall be observed throughout the State of Victoria.
- (b) The policy applies to landfill sites receiving municipal wastes, including privately operated landfill sites and those operated by municipal councils and regional refuse disposal groups.
- (c) For the purposes of the policy the segments of the environment classified within the policy area are the air environment, the surface waters, the groundwaters, residential areas, noise sensitive areas and aerodromes.

#### PART III—BENEFICIAL USES TO BE PROTECTED

6. The beneficial uses protected by this policy are:

*(a) Surface waters*

Those beneficial uses that are set out in any State environment protection policy which deals with surface waters.

*(b) Groundwater*

Those beneficial uses set out below:

- Potable water—where the total dissolved solids is less than 1,500 milligrams/litre in the groundwater;
- Potable mineral water—where the total dissolved solids is less than 3,000 milligrams/litre in the groundwater;
- Irrigation—where the total dissolved solids is less than 3,000 milligrams/litre in the groundwater;
- Industrial, mining—where the total dissolved solids is less than 14,000 milligrams/litre in the groundwater;
- Stock Water—where the total dissolved solids is less than 14,000 milligrams/litre in the groundwater;
- Ecosystem protection—at all concentrations of total dissolved solids in the groundwater; and
- Building and infrastructure protection—at all levels of total dissolved solids in the groundwater.

*(c) The Air Environment*

Those beneficial uses that are set out in the State environment protection policy (The Air Environment).

*(d) Noise*

Those beneficial uses that are set out in the State environment protection policy (Control of Noise from Commerce, Industry and Trade) No. N-1.

7. The clauses of this policy relating to the protection of groundwater shall not apply insofar as they are inconsistent with a State environment protection policy dealing with groundwater, on and from the date it takes effect.

## PART IV—INDICATORS AND OBJECTIVES

8. The indicators and objectives for beneficial uses protected by this policy are set out below.

*(a) Surface waters*

Those indicators and objectives that are set out in any State environment protection policy which deals with surface waters.

*(b) Groundwater*

(i) The indicators and objectives that are prescribed in Table 1.

(ii) The groundwater quality objectives prescribed in Table 1 shall apply to all groundwaters affected or which may be affected by landfill sites except where the background level is higher than the relevant objective, in which case maintenance of the background level shall become the objective.

The background level means the level of an indicator in waters outside the influence of any waste containing a measurable level of that indicator.

(iii) Objectives shall not be protected within an attenuation zone, but shall be achieved at and outside the boundary of an attenuation zone.

Table 1

Groundwater Indicators and Objectives

| <i>Indicators</i>             | <i>Beneficial Uses</i> | <i>Objectives</i>   |
|-------------------------------|------------------------|---|
| <b>Total dissolved solids</b> |                        |   |
|                               | All                    | The concentration of total dissolved solids shall not exceed the levels required to protect beneficial uses or be detrimental to any groundwater fed ecosystem.   |
| <b>Nutrients</b>              |                        |   |
|                               | Ecosystem protection   | Groundwater discharging to surface waters shall be free of substances in concentrations which can cause nuisance plant growth or changes in species composition to the detriment of the beneficial use.   |
|                               | Potable water          | Nitrogen should not exceed the recommended National Health and Medical Research Council limit.  |
|                               | Stock water            | Nitrogen should not exceed the recommended National Health and Medical Research Council limit.  |
| <b>Toxicants</b>              |                        |   |
|                               | All                    | Groundwater shall be free of introduced substances in concentrations which either individually or in combination, produce toxic effects or genetic damage to plants, animals, aquatic life or humans as these relate to the beneficial uses of the segment. |

| Indicators | Beneficial Uses      | Objectives  |
|------------|----------------------|---|
|            | Ecosystem Protection | The concentration of toxicants in groundwater at its point of discharge to a surface ecosystem shall not exceed the objectives for receiving waters in the relevant State environment protection policy for surface waters. |
|            | Stock water          | Shall not exceed the toxic levels in Schedule 5 of RWQC* (stock resources water supply water)   |
|            | Irrigation           | Shall not exceed the toxic levels in Schedule 6 of RWQC* (irrigation)   |
|            | Potable              | Concentration of toxicants in potable groundwater shall not water exceed those specified in Schedule 1 of RWQC*   |

**pH**

|                       |   |
|-----------------------|---|
| Ecosystem protection  | Contamination in discharging groundwater shall not cause variations from background levels in surface waters greater than the value or outside the range applicable under a State environment protection policy for surface waters. |
| Potable water         | pH shall not vary outside the range 5.5- 8.5.   |
| Potable mineral water | pH shall not vary outside the range 5.5-8.5.  |
| Irrigation            | pH shall not vary outside the range 5.5- 8.5.   |
| Industrial, mining    | pH shall not vary outside the range 5.5-8.5.  |
| Stock water resource  | pH shall not vary outside the range 5.5-8.5.  |

\* Recommended Water Quality Criteria—Environment Protection Authority, Victoria (latest edition).

**(c) The Air Environment**

The indicator is odour.

The objective shall be that odour not be offensive to persons beyond the perimeter of the landfill site.

**(d) Noise**

Noise shall not be excessive at the boundary of a noise sensitive area.

### PART V—ATTAINMENT PROGRAM

#### General provisions

**9. Implementation**

The policy applies to all persons, including private individuals and companies, municipal councils, Regional Refuse Disposal Groups and other government agencies and departments involved with siting and managing landfill sites receiving municipal wastes operated privately or by municipal councils.

All State Government departments, agencies and instrumentalities shall implement this policy insofar as it relates to their powers, duties and responsibilities.

The Authority shall co-ordinate the implementation of the policy in order to attain and maintain policy objectives.

**10. Planning Policy**

In making land use planning decisions and implementing planning schemes, special attention should be given to this policy.

In the implementation of this policy, special attention should be given to statements of policy contained in planning schemes made under the *Planning and Environment Act 1987*.

**11. Works Approval and Licensing**

Works approvals and new licences shall comply with this policy except as provided by clause 12.

Existing licences shall be amended, as necessary, to ensure compliance with this policy to the extent practicable.

All premises which are exempted from works approval or licensing must comply with the provisions of this policy.

**12. Variations to licences and works approvals**

Licences and works approvals conditions may be varied from the requirements of this policy in the following circumstances—

(a) The Authority may make conditions more stringent than those prescribed in this policy where the Authority is satisfied that:

- a beneficial use may be adversely affected; or
- a more effective or efficient treatment or disposal technology is available.

(b) The Authority may make conditions less stringent than those prescribed in this policy where:

- it is not possible to comply with siting, management or rehabilitation conditions of the policy using reasonably available technology or only a limited range of wastes are to be received, as in the case of a solid inert waste only landfill site;
- the policy objectives are not or will not be exceeded;
- discharges do not or will not adversely affect any protected beneficial use; and
- a waste minimisation and resource recovery program, where practicable, is in place.

### 13. Review

This policy shall be reviewed within ten years of the declaration of this policy, and amended as new information and circumstances warrant.

### Detailed Provisions

#### 14. Planning new landfill sites

The Authority may require at any time a municipal council or Regional Refuse Disposal Group to provide it with a Waste Management Plan which shall include:

- (a) a waste minimisation and resource recovery program;
- (b) a replacement schedule for all existing sites under its management and control;
- (c) an evaluation of the suitability for deposition of municipal waste of potential landfill sites available to it;
- (d) a schedule showing a proposed sequence for the filling of available landfill sites over the long term (minimum 10 years);
- (e) a list of all equipment and facilities which are or will be necessary for the maintenance of operating standards required by Schedule A of this policy;
- (f) a statement of group policy on how it is proposed to maintain the provisions of this policy, where the municipal council is a member of a Regional Refuse Disposal Group; and
- (g) a program for upgrading existing landfill sites to meet the requirements of this policy.

The Authority shall require the Waste Management Plan, or part of the Plan, to be amended at any time where it is not satisfied that the Plan provides adequate long term waste management and protection of beneficial uses from landfill sites which are privately operated and those operated by municipal councils and regional refuse disposal groups.

#### 15. Landfill site selection

- (a) The following evaluations shall be undertaken by an applicant for a works

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approval to select suitable sites, out of those that are or could be available, consistent with the requirements of this policy:

- (i) A preliminary general evaluation of possible landfill sites, which would include a comprehensive search for sites, site inspections to locate and assess relevant site features and assembly of relevant information on sites including planning scheme constraints and requirements of relevant State environment protection policies;
  - (ii) An evaluation of environmental, social and economic aspects in the segments of the environment that may be affected by the alternative landfill sites;
  - (iii) A preliminary hydrogeological evaluation of aquifers in the area of possible landfill sites, by methods approved by the Authority; and
- (b) The following constraints apply to site selection:
- (i) No landfill site shall be established or extended if municipal wastes cannot be contained in the tipping area, such that beneficial uses outside the site perimeter will not be maintained, unless an attenuation zone is allowed pursuant to clause 16.
  - (ii) No landfill site shall be established or extended in the areas listed in Table 2.

Table 2

Wetlands defined in the Wetlands Conservation program for Victoria (1988).

Critical habitats of taxa and communities of flora and fauna listed under the *Flora and Fauna Guarantee Act* 1988.

Marine and Coastal Reserves listed in Schedule 4 of the *National Parks Act* 1975 or Marine Reserves listed in the *Fisheries Act* 1968.

Crown land, except with the written consent of the Minister responsible for the relevant Act under which the land is managed.

Land liable to flooding if determined to be so liable by the responsible drainage authority.

Water supply catchments proclaimed under the *Soil Conservation and Land Utilization Act* 1958, except with the written consent of the Minister administering that Act.

- (iii) No tipping area shall be located within 100 metres of surface waters, unless the Authority is satisfied that:

- there are adequate control measures to protect surface waters from leachate from the tipping area and from contaminants transmitted through the groundwater; and
  - environmental, social and economic factors in the segments of the environment that are affected by a landfill site have been evaluated.
- (iv) Future tipping areas shall be located at a distance greater than 100 metres from surface waters where the Authority is satisfied that there is interaction between groundwaters and surface

waters that could result in a breach of any State environment protection policy which deals with surface waters.

- (v) No tipping area shall be established or extended closer to a residential area or aerodrome than as shown in Table 3, unless a study shows that due to site features the buffer distance has no application in the circumstances.

Site features means those site specific features which vary from site to site, such as topography, hydrology, geology, climate, and natural screening.

Table 3

| Type of landfill site   | Minimum buffer distances  |
|---|---|
| Solid inert waste only landfill sites in former extractive industry sites   | 50 metres from a residential area.<br>Where a former extractive industry site is located closer than 50 metres from a residential area, restricted approval may be given to fill it using selected solid inert material.        |
| Municipal waste landfill sites in a former extractive industry site provided municipal wastes are not disposed of within three metres from the land surface | 200 metres from a residential area.<br>Where a former extractive industry site is located closer than 200 metres, but not closer than 50 metres, restricted approval may be given by the Authority where circumstances warrant. |
| Urban municipal waste landfill sites, other than former extractive industry sites   | 200 metres from a residential area.   |
| Rural municipal waste landfill sites, other than former extractive industry sites   | 500 metres from a residential area.   |
| Municipal waste landfill sites  | 1,500 metres from an aerodrome for piston-engined propeller driven aircraft.  |
| Municipal waste landfill sites  | 3,000 metres from an aerodrome for jet aircraft.  |

#### 16. Attenuation zone

- (a) In the issue of a works approval or licence pursuant to the Act, the Authority may allow an attenuation zone around a landfill site for one or more indicators.

An attenuation zone may be allowed in relation to the following beneficial uses provided the following conditions are met and provided that the Authority is satisfied that the risk to existing and potential beneficial uses is acceptable and that there will be no detrimental effect to any groundwater fed ecosystem—

- (i) potable waters and potable mineral waters, where recovery or use of these waters is not viable;
- (ii) irrigation waters, provided a system of controlled attenuation is applied to the landfill site;

- (iii) industrial, mining and stock water resources, provided a system of controlled attenuation or natural attenuation is applied to the landfill site.

- (b) The Authority shall not allow an attenuation zone unless the applicant provides, to the satisfaction of the Authority—

- (i) evidence that the attenuation zone does not alienate a significant proportion of the aquifer from beneficial uses protected by this policy;
- (ii) an estimate of the natural attenuative capacity of aquifers that will be affected which demonstrates that indicators will not exceed the objectives outside the attenuation zone;
- (iii) expert advice that beneficial uses will not be affected by the movement of

leachate outside the attenuation zone;  
and

- (iv) a remedial action plan to deal with any objective being exceeded or beneficial use being adversely affected outside the attenuation zone.
- (c) An attenuation zone shall not be allowed in:
  - (i) a drawdown catchment of an existing or potential potable water supply bore;
  - (ii) aquifers with high permeability and low attenuation capacity; and
  - (iii) aquifers where there is insufficient dual porosity media to provide adequate attenuative capacity.

#### 17. Landfill site development standards

New landfill sites shall comply with the development standards set out in Schedule A.

Existing sites may be required to comply with the development standards set out in Schedule A where beneficial uses may not be or are not being complied with, to the extent practicable.

#### 18. Wastes allowed in landfill sites

The following wastes may be deposited at landfill sites—

- (a) Municipal wastes.
- (b) Domestic grease trap wastes, where they cannot reasonably be partly or totally recycled or discharged to sewer may be disposed to landfill sites for a period of twelve months after the declaration of this policy, provided written permission is obtained from the Authority. Any extension shall be given only where the Authority is satisfied that practical arrangements cannot be made within the twelve month period. The extension shall be for no more than for twelve months.
- (c) Baby napkins that have been rinsed of solid matter and placed in securely tied plastic bags.
- (d) Sludges, provided they cannot ooze liquid.
- (e) Wastes from ionizing radiation sources, which spontaneously emit radiation with a specific activity less than 100 becquerels per gram and provided they are immediately buried at the tip face, under supervision. Records of the quantities, location and nature of such wastes shall be kept by the occupier. Such records shall be made available to an authorised officer of the Authority upon request.

#### 19. Wastes not allowed in landfill sites

The following wastes shall not be deposited at landfill sites—

- (a) Any waste, which the Authority specifically excludes because there is a more acceptable waste management option available, such as waste minimisation and resource recovery.

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#### (b) Industrial wastes.

For the purposes of this clause industrial wastes mean any waste arising from commercial, industrial or trade activities or from laboratories and which contain substances and materials which are potentially harmful to human beings or any equipment.

#### (c) Liquid wastes.

#### (d) Automotive batteries.

#### (e) Automotive tyres, on and from 1 January 1993—

- (i) shall not be deposited at landfill sites serving more than 50,000 persons unless they are shredded or split prior to disposal; and
- (ii) shall not be deposited at landfill sites serving 50,000 persons or less unless the depositor can satisfy the occupier that the tyres were derived from his or her own use or from local automotive trading or repair works.

#### (f) Small batteries, except where they are dispersed in small quantities on disposal, such as those from domestic origins.

#### (g) Waste oils.

#### (h) Infectious wastes, pharmaceutical wastes and pathological wastes.

#### (i) Prescribed waste, such as batteries, asbestos wastes, etc., prescribed under the Environment Protection (Prescribed Wastes) Regulations 1987, unless written permission is obtained from the Authority to dispose specific prescribed wastes in compliance with the Environment Protection (Transport) Regulations 1987.

Where written approval is given by the Authority, records of the quantities, location and nature of such wastes shall be kept by the occupier. Such records shall be made available to an authorised officer of the Authority upon request.

#### 20. Operation of Landfill Sites

Landfill sites shall be operated to comply with the landfill site operating standards set out in Schedule A, except where the Authority is satisfied that innovative (including design, engineering and scientific) means can be applied to meet policy objectives.

#### 21. Site Completion and Rehabilitation

The occupier shall comply with the landfill site completion and rehabilitation standards set out in Schedule A.

### PART VI—RELATED ACTIVITIES

#### 22. Research

The Authority will conduct, promote and co-ordinate studies (e.g. with local government and the



private sector), research and surveys to assist in the attainment of policy objectives including the following:

- (a) Waste minimisation, including recycling and resource recovery;
- (b) Improved waste disposal methods;
- (c) Buffer distance guide-lines for landfill sites including impacts on residential areas, aerodromes and other sensitive land uses;
- (d) Surveys of and research into household toxic wastes aimed at promoting waste minimisation and safe disposal methods;
- (e) Surveys of waste types and quantities generated in hospitals and other health care institutions for disposal to landfill sites;
- (f) Surveys of waste from domestic sources, municipal waste services provided by municipal councils and waste streams entering landfills;
- (g) Sampling techniques for leachates;
- (h) Analysis of reference samples of leachates;
- (i) The relative impacts in terms of the greenhouse effect of flaring off or utilising landfill gases in energy recovery programs, versus allowing landfill gases to be released from landfill sites; such research to assist in an evaluation of this source of greenhouse gases in the international context.

- (j) Collection and evaluation of landfill monitoring information for refinement of predictive models.

23. *Training*

Training is necessary for operators, managers and other personnel involved with landfill sites to ensure compliance with this policy.

The Authority shall ensure that training standards are sufficient to ensure an understanding of the requirements of this policy, and the techniques necessary for achieving compliance with those policy requirements, including those contained in a works approval and licence—

- (a) On and from 1 January 1993 the Authority shall require the occupier to employ trained operators and supervisors for landfill sites serving 50,000 persons or more.
- (b) On and from 1 January 1995 the Authority shall require the occupier to employ trained operators and supervisors for landfill sites serving 10,000 persons or more.
- (c) Training courses shall be approved by the Authority.

24. *Public Education*

In co-operation with other public and private bodies, the Authority shall provide public education in municipal waste management, waste disposal and related pollution control issues.

## SCHEDULE A

## A2.1 Landfill site development standards

A1 LANDFILL SITE DEVELOPMENT STANDARDS, LANDFILL SITE OPERATING STANDARDS AND LANDFILL SITE COMPLETION AND REHABILITATION STANDARDS.

Landfill site development standards required for populations greater than 5,000 persons.

## A2.1.1 Fencing

A2.1.1.1 Fencing shall be constructed in accordance with the minimum requirements of Table A1.

## A2 URBAN LANDFILL SITES

Table A1: Minimum Fencing Requirements

| Type of operation   | Population served   |                          |                     |
|---|---|--------------------------|---------------------|
|   | over 5,000 and less than 10,000 persons   | 10,000 to 50,000 persons | over 50,000 persons |
| Extractive industry sites   | A   | A                        | A                   |
| Trench, or cut and fill sites   | B   | A or C                   | A or C              |
| Change of topography or above ground sites  | B   | A or C                   | A or C              |
| Fencing type—   |   |                          |                     |
| A—A wire mesh fence at least 1.8 metres high shall be constructed around the landfill site perimeter.   | A2.1.3.4 A firebreak shall be provided to the satisfaction of the responsible fire authority.   |                          |                     |
| B—(i) A stock-proof fence shall be constructed around the perimeter of the landfill site; and   | A2.1.3.5 The Authority may grant an exemption to the occupier from the provision of clauses A2.1.3.1—A2.1.3.3 where fire control measures acceptable to the responsible fire authority are applied. |                          |                     |
| (ii) relocatable litter screens shall be erected near the tipping area.   | A2.1.4 Water management works   |                          |                     |
| C—(i) A wire mesh fence at least 1.8 metres high shall be constructed around the tipping area only; and   | A2.1.4.1 Cut-off drains and/or diversion banks shall be constructed to divert surface run-off away from the tipping area.   |                          |                     |
| (ii) a stock-proof fence shall be constructed around the perimeter of the site.   | A2.1.4.2 Surface run-off diverted by cut-off drains and/or diversion banks shall be directed off-site.  |                          |                     |
| A2.1.1.2 Relocatable litter screens may be required around the tipping area of large or exposed landfill sites, or landfill sites which are subject to high or frequent winds.  | A2.1.5 Site screening works   |                          |                     |
| A2.1.2 Access roads   | Planting of natural screens, such as trees, shrubs and other vegetation, aesthetic fences and/or earthen embankments may be required.   |                          |                     |
| All-weather internal roads shall be constructed from the entrance of the landfill site to the initial tipping area.   | A2.1.6 Noise abatement works  |                          |                     |
| A2.1.3 Fire control   | Noise abatement works, such as earthen embankments may be required.   |                          |                     |
| A2.1.3.1 Where a reticulated water supply is available pipes shall be provided from it to standpipes so placed that water may be discharged by means of a hose to extinguish a fire in any part of the site.                                    | A2.1.7 Cover material   |                          |                     |
| A2.1.3.2 Where a reticulated water supply is not available a stored water supply of not less than 50,000 litres, shall be provided to hydrants and hoses so that water may be discharged to extinguish a fire in any part of the landfill site. | The initial stockpile shall consist of cover material for not less than two weeks operations of the landfill site and shall be stored and readily available on site.                                |                          |                     |
| A2.1.3.3 Clear access to the water supply for fire-fighting vehicles shall be provided at all times.  | The quantity of cover material for the purposes of this clause shall be calculated on the basis of 12.5 cubic metres per two weeks per 1,000 persons served.  |                          |                     |
|   | A2.1.8 Signs  |                          |                     |
|   | Suitable signs shall be prominently displayed at the site showing:  |                          |                     |
|   | (a) the hours of opening of the landfill site;  |                          |                     |

- (b) those wastes which may be deposited and those which shall not be deposited;
- (c) locations where wastes shall be deposited within the landfill site;
- (d) those materials which are recycled; and
- (e) that open burning is prohibited at the landfill site.

**A2.1.9 Wheel washers**

Wheel washing equipment may be required. Where wheel washers are required they shall be designed to accommodate vehicles leaving the site.

**A2.1.10 Groundwater protection works and monitoring**

A2.1.10.1 Groundwater protection works, such as site liners may be required.

A2.1.10.2 A groundwater monitoring program and facilities for sampling groundwater may be required.

A leachate monitoring program and facilities for sampling leachate may be required.

A2.1.10.3 Leachate collection, treatment and disposal facilities may be required.

**A2.1.11 Landfill gas control**

The Authority may require works where landfill gases are monitored, collected, flared off or used for energy production.

**A2.1.12 Rehabilitation**

For new landfill sites, a site rehabilitation plan shall be submitted to the Authority for approval. The plan shall include consideration of, and designs for, the following provisions, where applicable:

- (a) after-use options (including the preferred option);
- (b) conceptual design of after-use infra-structure;
- (c) proposed final surface contours (after allowance for settlement and including amount of settlement allowed for);
- (d) capping materials to be used;
- (e) drainage system;
- (f) provision for landfill gas collection, management and use;

- (g) provision for irrigation measures to promote vegetation, and dispose of any collected leachate;
- (h) proposed protection measures and monitoring program; and
- (i) anticipated period of aftercare of the landfill site.

**A2.2 Landfill site operating standards**

Landfill site operating standards for populations greater than 5,000 persons.

**A2.2.1 Supervision**

A2.2.1.1 Supervision shall be provided for all landfill sites, and for landfill sites serving greater than 10,000 persons supervision shall be provided at all times when the landfill site is open for reception of wastes.

A2.2.1.2 The occupier shall ensure that a copy of the licence is kept on site at all times.

A2.2.1.3 The occupier shall ensure that the operator of the landfill site is familiar with licence conditions for the landfill site.

**A2.2.2 Landfill operation**

A2.2.2.1 Exposed wastes shall be limited to the operating face of the tipping area and minimised.

A2.2.2.2 No waste shall be deposited beyond the boundaries of the tipping area.

A2.2.2.3 All wastes shall be deposited in layers not exceeding a vertical height of two metres.

A2.2.2.4 Every layer of waste deposited in the landfill site shall be evenly and properly consolidated by mechanical plant.

A2.2.2.5 Wastes deposited in the landfill site shall be covered in accordance with the minimum requirements of Table A2 with a layer of cover material so that no wastes are exposed.

A2.2.2.6 Landfill cells construction shall comply with the requirements of Table A2 of this Schedule and shall be covered with a layer of cover material not less than 300 millimetres in thickness.

Table A2  
Minimum Covering Frequency Requirements

| Population Served              | Covering Municipal Wastes | Construction of Landfill Cell |
|--------------------------------|---------------------------|-------------------------------|
| Over 150,000 persons           | Continuous                | Continuous                    |
| Over 50,000 to 150,000 persons | Day of delivery           | Daily                         |
| Over 5,000 to 50,000 persons   | Day of delivery           | Weekly                        |

A2.2.2.7 Large metal articles, including drums of a volume larger than 25 litres, shall be compacted.

A2.2.2.8 Compacted metal articles and whole rubber tyres, where permitted, shall be deposited at the base of the tipping area.

A2.2.2.9 No municipal wastes, except for solid inert wastes, shall be deposited into water.

A2.2.2.10 Putrescible wastes or domestic garbage shall be deposited at least two metres above the upper level of the groundwater unless written permission from the Authority has been obtained.

A2.2.2.11 Putrescible wastes from non-domestic sources shall be covered immediately on deposition so that no wastes are exposed.

A2.2.2.12 Where necessary to control exposure to scavenging birds, putrescible wastes or domestic garbage shall be confined to as small an area as practicable in the tipping area and covered frequently, or continuously, as the situation demands.

#### A2.2.3 Cover material

Cover material for not less than two weeks operation shall be provided at all times and shall be stored and readily available on the site.

The quantity of cover material for the purposes of this clause shall be calculated on the basis of 12.5 cubic metres per two weeks per 1,000 persons served.

#### A2.2.4 Burning at landfill sites

A2.2.4.1 Open burning of any wastes shall not be permitted.

A2.2.4.2 In the event of a fire occurring at a landfill the occupier shall:

- (a) take prompt action to extinguish the fire;
- (b) immediately notify the Authority, by a telephone call to the nearest regional office, or by contacting the Authority's emergency response co-ordinator; and
- (c) submit to the Authority, within 14 days of the event, a written report detailing the date, time, location and suspected cause of the fire and when it was extinguished.

#### A2.2.5 Maintenance of works

All works installed in accordance with the works approval and licence shall be kept in good order and condition throughout the lifetime of the landfill site.

#### A2.2.6 Management of stormwater

A2.2.6.1 Additional cut-off drains and/or diversion banks to divert surface run-off away from the tipping area may be required to be constructed.

A2.2.6.2 Surface run-off diverted by additional cut-off drains and/or diversion banks shall be directed off-site.

#### A2.2.7 Management of leachate

A2.2.7.1 Leachate seeping from the tipping area shall be collected and disposed of within the boundaries of the tipping area, except with written approval of the Authority;

A2.2.7.2 Leachate shall not be permitted to discharge beyond the boundaries of the tipping area, except with written approval of the Authority; and

A2.2.7.3 Leachate diluted with stormwater or concentrated by any wastes shall not be permitted to discharge beyond the boundaries of the tipping area, except with written approval of the Authority.

#### A2.2.8 Litter control

A2.2.8.1 Litter outside the tipping area shall be collected and action taken to prevent its recurrence.

A2.2.8.2 Site fencing, gates and litter screens shall be frequently cleared of litter.

#### A2.2.9 Dust control

Dust arising from the landfill operation shall be minimised or suppressed so that no undue off-site effects occurs.

#### A2.2.10 Noise control

The Authority may require the installation of noise abatement works to control excessive noise and may restrict the hours of operation to reduce the impact of noise.

#### A2.2.11 Control of disease or infection carriers

The Authority may require the occupier to undertake a program to control disease or infection carriers in or from a landfill site.

Where a control program involves spraying or baiting, the occupier shall ensure that no spray or bait material shall leave the landfill site.

#### A2.2.12 Bird control

Where birds cause or may cause problems in or from a landfill site the Authority may require the occupier to undertake a program to abate these problems.

#### A2.2.13 Landfill gas control

Landfill gas control works may be required to be installed retrospectively to landfill sites where landfill gas emissions are causing or may cause odours or where hazards are or may be experienced or where it is desirable and practical to reduce greenhouse gas emissions.

#### A2.2.14 Complaints

A2.2.14.1 The occupier shall keep a written summary of complaints concerning the operation of the landfill site. This summary shall include the following details about each complainant and the incident from which the complaint arose:

- (a) name and address of complainant;
- (b) date and time of incident;
- (c) location where the incident occurred;
- (d) description of the incident;
- (e) prevailing weather conditions at the time of the incident;
- (f) the likely cause of the incident; and
- (g) action or actions taken by the occupier.

A2.2.14.2 Such summary shall be made available to an authorised officer of the Authority upon request.

A2.2.14.3 Written complaints shall be kept and made available to an authorised officer of the Authority upon request.

*A2.2.15 Leachate and groundwater monitoring program*

A2.2.15.1 A program may be required by the Authority to monitor leachate and groundwater, the design and implementation of which shall be to the satisfaction of the Authority.

A2.2.15.2 Sampling sites for leachate and groundwater monitoring shall be selected to the satisfaction of the Authority.

*A2.2.16 Small vehicular traffic*

The following provisions shall take effect on and from 1 January 1993.

A2.2.16.1 Vehicles less than 1.6 tonnes tare shall be excluded from the tipping area and face of all landfills serving more than 150,000 persons.

A2.2.16.2 Such vehicles may be excluded from other landfills if the Authority considers it necessary.

A2.2.16.3 The Authority may grant an exemption to the occupier from the provision of clauses A2.2.16.1 and A2.2.16.2 where the landfill site receives solid inert waste only.

*A2.2.17 Wheel washers*

The occupier shall ensure that all vehicles use the wheel washer, where one has been installed at a landfill site, where mud is likely to be taken off-site by any vehicle.

*A2.3 Landfill site completion and rehabilitation*

Landfill site completion and rehabilitation required for populations greater than 5,000 persons.

*A2.3.1 Landfill Site Completion*

Once the tipping area, or part thereof, has been filled then the following measures shall be undertaken to the satisfaction of the Authority.

A2.3.1.1 A final layer of compacted earth, not less than 0.5 metres in depth, shall be placed over the entire surface of the tipping area or part thereof.

A2.3.1.2 The final surface of the tipping area or part thereof, shall be covered with topsoil, sloped, drained and vegetated to minimise erosion and infiltration and to prevent the ponding of stormwater.

A2.3.1.3 For landfill sites lined with an impermeable membrane, the capping of the entire surface of the tipping area or part thereof shall include an equivalent liner membrane

designed to prevent surface expression of leachates due to continued ingress of rainwater.

*A2.3.2 Rehabilitation*

A2.3.2.1 For an existing landfill site, at least 18 months prior to its closure, a final rehabilitation plan shall be submitted to the Authority for approval. The plan shall show consideration of, and designs for the following provisions:

- (a) after-use options (including the preferred option);
- (b) conceptual design of after-use infra-structure;
- (c) proposed final surface contours (after allowance for settlement and including amount of settlement allowed for);
- (d) capping materials to be used;
- (e) drainage system;
- (f) provision for landfill gas collection, management and use;
- (g) provision for irrigation measures to promote vegetation, and dispose of any collected leachate;
- (h) proposed protection measures and monitoring program; and
- (i) anticipated period of aftercare of the landfill site.

A2.3.2.2 The rehabilitation plan, after allowing for settlement, shall result in a final shape that blends in with the adjacent landform and be shaped to facilitate drainage, except where the Authority is satisfied that environmental, social and economic factors affected by a landfill site are acceptable, in which circumstances the Authority may grant restricted approval for an above ground landfill site.

A2.3.2.3 The occupier shall implement the site rehabilitation plan to the satisfaction of the Authority.

**A3 RURAL LANDFILLS**

**A3. Landfill development standards**

Landfill development standards for rural landfill sites serving a population of equal to or less than 5,000 persons.

*A3.1.1 Fencing*

A3.1.1.1 All sites shall be fenced.

A3.1.1.2 For landfill sites in former extractive industry sites a wire mesh fence at least 1.8 metres high shall be constructed, or restored and maintained, around the perimeter of the site.

A3.1.1.3 For all other sites fencing shall be—

- (a) a stock-proof fence constructed around the perimeter of the site; and

- (b) relocatable litter screens erected near the tipping area.

**A3.1.2 Access roads**

All-weather internal access roads may be required by the Authority.

**A3.1.3 Fire control**

**A3.1.3.1** Where a reticulated water supply is available pipes shall be provided to standpipes so placed that water may be discharged by means of a hose to extinguish a fire in any part of the site.

**A3.1.3.2** Where a reticulated water supply is not available a stored water supply of not less than 50,000 litres recoverable at all times, shall be provided to hydrants and hoses so that water may be discharged to extinguish a fire in any part of the site.

**A3.1.3.3** Clear access to the water supply for fire-fighting vehicles shall be provided at all times.

**A3.1.3.4** A firebreak shall be provided to the satisfaction of the responsible fire authority.

**A3.1.3.5** The Authority may grant an exemption to the occupier from the provision of clauses A3.1.3.1—A3.1.3.3 where fire control measures acceptable to the responsible fire authority are applied.

**A3.1.4 Water management works**

**A3.1.4.1** Cut-off drains and/or diversion banks shall be constructed to divert surface run-off away from the tipping area.

**A3.1.4.2** Surface run-off diverted by cut-off drains and/or diversion banks shall be directed off-site.

**A3.1.5 Site screening works**

Planting of natural screens, such as trees, shrubs and other vegetation, aesthetic fences and/or earthen embankments may be required.

**A3.1.6 Noise abatement works**

Noise abatement works, such as earthen embankments, may be required.

**A3.1.7 Cover material**

The initial stockpile shall consist of cover material for not less than one month's operations and shall be stored and readily available on site.

The quantity of cover material for the purposes of this clause shall be calculated on the basis of 25 cubic metres per month per 1,000 persons served.

**A3.1.8 Signs**

Suitable signs shall be prominently displayed at the site showing:

- (a) the hours of opening of the landfill site;
- (b) those wastes which may be deposited and those which shall not be deposited;
- (c) where wastes shall be deposited within the landfill site;

- (d) those materials which are recycled; and

- (e) what burning requirements are applicable to the site.

**A3.1.9 Wheel washers**

Wheel washing equipment may be required where the site is located less than two kilometres from a residential area. Where wheel washers are required they shall be designed to accommodate vehicles leaving the site.

**A3.1.10 Groundwater protection works**

**A3.1.10.1** Groundwater protection works, such as site liners may be required.

**A3.1.10.2** A groundwater monitoring program and facilities for sampling groundwater may be required. A leachate monitoring program and facilities for sampling leachate may be required.

**A3.1.10.3** Leachate collection, treatment and disposal facilities may be required.

**A3.1.11 Rehabilitation**

For new landfill sites, a site rehabilitation plan shall be submitted to the Authority for approval. The plan shall include consideration of, and designs for, the following provisions, where applicable:

- (a) after-use options (including the preferred option);
- (b) conceptual design of after-use infra-structure;
- (c) proposed final surface contours (after allowance for settlement—include details of settlement allowed);
- (d) capping materials to be used;
- (e) drainage system;
- (f) provision for landfill gas collection and management;
- (g) provision for irrigation measures to promote vegetation, and dispose of any collected leachate;
- (h) proposed protection measures and monitoring program; and
- (i) anticipated period of aftercare of the landfill site.

**A3.2 Landfill operating standards**

Landfill operating standards for populations equal to or less than 5,000 persons.

**A3.2.1 Supervision**

Limited supervision may be required for rural landfills.

**A3.2.2 Landfill operation**

**A3.2.2.1** Exposed wastes shall be limited to the operating face of the tipping area and minimised.

**A3.2.2.2** No waste shall be deposited beyond the boundaries of the tipping area.

A3.2.2.3 All wastes shall be deposited in layers not exceeding a vertical height of two metres.

A3.2.2.4 Every layer of waste deposited in the landfill site shall be evenly and properly consolidated by mechanical plant.

A3.2.2.5 Except as provided by clause A3.2.2.10, waste deposited in the landfill site shall be covered within 24 hours of the day of delivery with a layer of cover material so that no wastes are exposed.

A3.2.2.6 For landfill sites serving less than 500 persons the maximum landfill cells size shall be 150 cubic metres and for landfill sites serving more than 500 persons the maximum landfill cells size shall be 300 cubic metres. Landfill cells shall be covered with a layer of cover material not less than 300 millimetres in thickness.

A3.2.2.7 The minimum frequency of construction of landfill cells shall be six weeks.

A3.2.2.8 The minimum frequency for covering solid inert waste shall be four weeks.

A3.2.2.9 Large metal articles, including drums of a volume larger than 25 litres, shall be compacted.

A3.2.2.10 If there is a breakdown in any equipment required to comply with the cover requirements of clause A3.2.2, written exemption from these requirement may be given by the Authority.

A3.2.2.11 No putrescible wastes or domestic garbage shall be deposited into water.

A3.2.2.12 Putrescible wastes or domestic garbage shall be deposited at least two metres above the upper level of the groundwater unless written permission from the Authority has been obtained.

A3.2.2.13 Putrescible wastes from non-domestic sources shall be covered immediately on deposition so that no wastes are exposed.

A3.2.2.14 Where necessary to control exposure to scavenging birds, putrescible wastes or domestic garbage shall be confined to as small an area as practicable in the tipping area and covered frequently, or continuously, as the situation demands.

#### A3.2.3 Cover material

Cover material for not less than one month's operation shall be provided and shall be stored and readily available on the site.

The quantity of cover material for the purposes of this clause shall be calculated on the basis of 25 cubic metres per month per 1,000 persons served.

#### A3.2.4 Burning at landfills

A3.2.4.1 Wastes to be burned at landfills shall, where permitted, be limited to dry vegetative

material such as tree and shrub prunings. Wastes specifically excluded from burning are:

- \* Chemicals or chemical containers
- \* Domestic garbage
- \* Food wastes
- \* Paint or paint containers
- \* Petroleum and oil
- \* Plastics
- \* Rubber (including tyres)
- \* Tar and bitumen
- \* Wet materials
- \* Other materials offensive or dangerous when burned

A3.2.4.2 Burning shall be carried out in accordance with the Authority's "Guidelines for open burning" (Publication No. AQ5/87) and subject to the following conditions:

- (a) A person authorised by the occupier shall be in attendance at all times of burning and shall be solely responsible for lighting and control of fires;
- (b) Waste material for burning shall be arranged in windrows or trenches;
- (c) A fire shall not be located within 20 metres of any site perimeter or working face of the landfill;
- (d) A fire shall not be located over a previously filled area of the landfill;
- (e) A fire by way of its location or condition, shall not be harmful to the health or welfare, or offensive, to persons on or beyond the boundaries of the landfill site; and
- (f) Burning shall be restricted to daylight hours unless specifically permitted by the Authority and the responsible fire authority.

A3.2.4.3 In the event of an unauthorised fire occurring at a landfill the occupier shall:

- (a) take prompt action to extinguish the fire;
- (b) immediately notify the Authority, by telephone call to the nearest regional office, or by contacting the Authority's emergency response co-ordinator; and
- (c) submit to the Authority, within 14 days of the event, a written report detailing the date, time, location and suspected cause of the fire and when it was extinguished.

#### A3.2.5 Maintenance of works

All works installed in accordance with the works approval or licence shall be kept in good order and condition throughout the lifetime of the landfill site.

#### A3.2.6 Management of stormwater

A3.2.6.1 Additional cut-off drains and/or diversion banks to divert surface run-off away from the tipping area may be required to be constructed.

A3.2.6.2 Surface run-off diverted by additional cut-off drains and/or diversion banks shall be directed off-site.

**A3.2.7 Management of leachate**

A3.2.7.1 Leachate seeping from the tipping area shall be collected and disposed of within the boundaries of the tipping area, except with written approval of the Authority;

A3.2.7.2 Leachate shall not be permitted to discharge beyond the boundaries of the tipping area, except with written approval of the Authority; and

A3.2.7.3 Leachate diluted with stormwater or concentrated by any wastes shall not be permitted to discharge beyond the boundaries of the tipping area, except with written approval of the Authority.

**A3.2.8 Litter control**

A3.2.8.1 Litter outside the tipping area shall be collected and action taken to prevent its recurrence.

A3.2.8.2 Site fencing, gates and litter screens shall be frequently cleared of litter.

**A3.2.9 Dust control**

Dust arising from the landfill operation shall be minimised or suppressed so that no undue off-site effects occurs.

**A3.2.10 Noise control**

The Authority may require the installation of noise abatement works to control excessive noise and may restrict the hours of operation to reduce the impact of noise.

**A3.2.11 Control of disease or infection carriers**

The Authority may require the occupier to undertake a program to control disease or infection carriers in or from a landfill site.

Where a control program involves spraying or baiting, the occupier shall ensure that no spray or bait material shall leave the landfill site.

**A3.2.12 Bird control**

Where birds cause or may cause problems in or from a landfill site the Authority may require the occupier to undertake a program to abate these problems.

**A3.2.13 Wheel washers**

The occupier shall ensure that all vehicles use the wheel washer, where one has been installed at a landfill site, where mud is likely to be taken off-site by any vehicle.

**A3.2.14 Complaints**

A3.2.14.1 The occupier shall keep a written summary of complaints concerning the operation of

the landfill site. This summary shall include the following details about each complainant and the incident from which the complaint arose:

- (a) name and address of complainant;
- (b) date and time of incident;
- (c) location where the incident occurred;
- (d) description of the incident;
- (e) prevailing weather conditions at the time of the incident;
- (f) the likely cause of the incident; and
- (g) action or actions taken by the occupier.

A3.2.14.2 Such summary shall be made available to an authorised officer of the Authority upon request.

A3.2.14.3 Written complaints shall be kept and made available to an authorised officer of the Authority upon request.

**A3.2.15 Leachate and groundwater monitoring program**

A3.2.15.1 A program may be required by the Authority to monitor leachate and groundwater, the design of which shall be to the satisfaction of the Authority.

A3.2.15.2 Sampling sites for leachate and groundwater monitoring shall be selected to the satisfaction of the Authority.

**A3.3 Landfill site completion and rehabilitation**

Landfill site completion and rehabilitation required for populations less than or equal to 5,000 persons.

**A3.3.1 Landfill Site Completion**

Once the tipping area, or part thereof, has been filled then the following measures shall be undertaken to the satisfaction of the Authority.

A3.3.1.1 A final layer of compacted earth, not less than 0.5 metres in depth, shall be placed over the entire surface of the tipping area or part thereof.

A3.3.1.2 The final surface of the tipping area or part thereof, shall be covered with topsoil, sloped, drained and vegetated to minimise erosion and infiltration and to prevent the ponding of stormwater.

A3.3.1.3 For landfill sites lined with an impermeable membrane, the capping of the entire surface of the tipping area or part thereof shall include an equivalent liner membrane designed to prevent surface expression of leachates due to continued ingress of rainwater.

**A3.3.2 Rehabilitation**

A3.3.2.1 For an existing landfill site, at least 18 months prior to its closure, a final rehabilitation plan shall be submitted to the



Authority for approval. The plan shall show consideration of, and designs for the following provisions:

- (a) after-use options (including the preferred option);
- (b) conceptual design of after-use infrastructure;
- (c) proposed final surface contours (after allowance for settlement and including amount of settlement allowed for);
- (d) capping materials to be used;
- (e) drainage system;
- (f) provision for landfill gas collection and management;

(g) provision for irrigation measures to promote vegetation, and dispose of any collected leachate;

(h) proposed protection measures and monitoring program; and

(i) anticipated period of aftercare of the landfill site.

A3.3.2.2 The rehabilitation plan, after allowing for settlement, shall result in a final shape that blends in with the adjacent landform and be shaped to facilitate drainage.

A3.3.2.3 The occupier shall implement the site rehabilitation plan to the satisfaction of the Authority.





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