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| Licence Number | L8839/2014/1 |
| Licence Holder | Shire of Ravensthorpe |
| Registered business address | 65 Morgans Street RAVENSTHORPE WA 6346 |
| File Number | DER2014/001936 |
| Duration | 20 November 2037 |
| Date of issue | 21 November 2017 |
| Prescribed Premises | Category 64 Class II putrescible landfill site Category 62 Solid waste depot |
| Premises | Ravensthorpe Waste Management Facility 283 Moir Road RAVENSTHORPE WA 6346 Legal description - Lot 1363 on Plan 186050 |

This Licence is granted to the Licence Holder, subject to the following conditions, on 21 November 2017 by:

Date signed 21 November 2017

Steve Checker

MANAGER LICENSING (WASTE INDUSTRIES)

an officer delegated under section 20 of the *Environmental Protection Act 1986 (WA)*

Explanatory notes

These explanatory notes do not form part of this Licence.

Defined terms

Definition of terms used in this Licence can be found at the start of this Licence. Terms which are defined have the first letter of each word capitalised throughout this Licence.

Department of Water and Environmental Regulation

The Department of Water and Environmental Regulation (DWER) is established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the *Environmental Protection Act 1986 (WA)* (EP Act). The Department also monitors and audits compliance with licences, takes enforcement action and develops and implements licensing and industry regulation policy.

Licence

Section 56 of the EP Act provides that an occupier of Prescribed Premises commits an offence if Emissions are caused or increased, or permitted to be caused or increased, or Waste, noise, odour or electromagnetic radiation is altered, or permitted to be altered, from Prescribed Premises, except in accordance with a works approval or licence.

Categories of Prescribed Premises are defined in Schedule 1 of the *Environment Protection Regulations 1987 (WA)* (EP Regulations).

This Licence does not authorise any activity which may be a breach of the requirements of another statutory authority including, but not limited to the following:

- conditions imposed by the Minister for Environment under Part IV of the EP Act;
- conditions imposed by DWER for the clearing of native vegetation under Part V, Division 2 of the EP Act;
- any requirements under the *Waste Avoidance and Resource Recovery Act 2007*;
- any requirements under the *Environmental Protection (Controlled Waste) Regulations 2004*; and
- any other requirements specified through State legislation.

It is the responsibility of the Licence Holder to ensure that any action or activity referred to in this Licence is permitted by, and is carried out in compliance with, other statutory requirements.

The Licence Holder must comply with the Licence. Contravening a Licence Condition is an offence under s.58 of the EP Act.

Responsibilities of a Licence Holder

Separate to the requirements of this Licence, general obligations of Licence Holders are set out in the EP Act and the regulations made under the EP Act. For example, the Licence Holder must comply with the following provisions of the EP Act:

- the duties of an occupier under section 61; and
- restrictions on making certain changes to Prescribed Premises unless the changes are in accordance with a works approval, Licence, closure notice or environmental protection notice (s.53).

Strict penalties apply for offences under the EP Act.

Reporting of incidents

The Licence Holder has a duty to report to DWER all discharges of waste that have caused or are likely to cause Pollution, Material Environmental Harm or Serious Environmental Harm, in accordance with s.72 of the EP Act.

Offences and defences

The EP Act and its regulations set out a number of offences, including:

- Offence of emitting an Unreasonable Emission from any Premises under s.49.
- Offence of causing Pollution under s.49.
- Offence of dumping Waste under s.49A.
- Offence of discharging Waste in circumstances likely to cause Pollution under s.50.
- Offence of causing Serious Environmental Harm (s.50A) or Material Environmental Harm (s.50B).
- Offence of causing Emissions which do not comply with prescribed standards (s.51).
- Offences relating to Emissions or Discharges under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)*.
- Offences relating to noise under the *Environmental Protection (Noise) Regulations 1997 (WA)*.

Section 53 of the EP Act provides that a Licence Holder commits an offence if Emissions are caused, or altered from a Prescribed Premises unless done in accordance with a Works Approval, Licence or the requirements of a Closure Notice or an Environmental Protection Notice.

Defences to certain offences may be available to a Licence Holder and these are set out in the EP Act. Section 74A(b)(iv) provides that it is a defence to an offence for causing Pollution, in respect of an Emission, or for causing Serious Environmental Harm or Material Environmental Harm, or for discharging or abandoning Waste in water to which the public has access, if the Licence Holder can prove that an Emission or Discharge occurred in accordance with a Licence.

This Licence specifies the Emissions and Discharges, and the limits and Conditions which must be satisfied in respect of Specified Emissions and Discharges, in order for the defence to offence provision to be available.

Authorised Emissions and Discharges

The Specified and General Emissions and Discharges from Primary Activities conducted on the Prescribed Premises are authorised to be conducted in accordance with the Conditions of this Licence.

Emissions and Discharges caused from other activities not related to the Primary Activities at the Premises have not been Conditioned in this Licence. Emissions and Discharges from other activities at the Premises are subject to the general provisions of the EP Act.

Amendment of licence

The Licence Holder can apply to amend the Conditions of this Licence under s.59 of the EP Act. An application form for this purpose is available from DWER.

The CEO may also amend the Conditions of this Licence at any time on the initiative of the CEO without an application being made.

Amendment Notices constitute written notice of the amendment in accordance with s.59B(9) of the EP Act.

Duration of Licence

The Licence will remain in force for the duration set out on the first page of this Licence or until it is surrendered, suspended or revoked in accordance with s.59A of the EP Act.

Suspension or revocation

The CEO may suspend or revoke this Licence in accordance with s.59A of the EP Act.

Fees

The Licence Holder must pay an annual licence fee. Late payment of annual licence fees may result in the licence ceasing to have effect. A licence that has ceased to have effect due to non-payment of annual licence fees continues to exist; however, it ceases to provide a defence to an offence under s.74A of the EP Act.

Late fees are a component of annual licence fees and should a Licence Holder fail to pay late fees within the time specified the licence will similarly cease to have effect.

Definitions and interpretation

Definitions

In this Licence, the terms in Table 1 have the meanings defined.

Table 1: Definitions

| Term | Definition |
|-----------------------|--|
| Acceptance Criteria | has the meaning defined in Landfill Definitions |
| ACM | means asbestos containing material which is defined in the document <i>Department of Health (2009), Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Government of Western Australia</i> |
| AHD | means the Australian height datum |
| Amendment Notice | means an amendment granted under s.59 of the EP Act in accordance with the procedure set out in s.59B of the EP Act. |
| Annual Period | means a 12 month period commencing from 1 April until 31 March. |
| application documents | means the documents titled <i>Opus International Consultants (PCA) Pty Ltd (July 2014), Works Approval Application Supporting Information Ravensthorpe Regional Waste Management Facility, Lot 1363 Moir Road Shire of Ravensthorpe, Western Australia</i> and the document titled " <i>Works Approval W5663/2014/1 Amendment</i> " submitted by email on 6 November 2017. |
| asbestos | means the asbestiform variety of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals and includes actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite and any mixture containing 2 or more of those |
| AS/NZS 5667.1 | means the Australian Standard AS/NZS 5667.1 <i>Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples</i> |
| AS/NZS 5667.11 | means the Australian Standard AS/NZS 5667.11 <i>Water Quality – Sampling – Guidance on sampling of groundwaters</i> |

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| averaging period | means the time over which a limit or target is measured or a monitoring result is obtained |
| Books | has the same meaning given to that term under the EP Act. |
| CEO | means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 info-der@dwer.wa.gov.au |
| Clean Fill | has the meaning defined in Landfill Definitions |
| Compliance Report | as specified by the CEO (guidelines and templates are available on the Department's website). |
| Condition | means a condition to which this Licence is subject under s.62 of the EP Act. |
| construction and demolition waste | has the meaning defined in Landfill Definitions |
| Contaminated Solid Waste | has the meaning defined in Landfill Definitions |
| controlled waste | has the definition in Environmental Protection (Controlled Waste) Regulations 2004 |
| Department | means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act. |
| Department Request | means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises. |
| designated burning area | means the area at the landfill site that has been designated for the burning of greenwaste as labelled and depicted in Schedule 1; |
| Discharge | has the same meaning given to that term under the EP Act. |
| DWER | Department of Water and Environmental Regulation. |
| Emission | has the same meaning given to that term under the EP Act. |
| Environmental Harm | has the same meaning given to that term under the EP Act. |
| EP Act | means the <i>Environmental Protection Act 1986</i> (WA). |
| EP Regulations | means the <i>Environmental Protection Regulations 1987</i> (WA). |

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| freeboard | means the distance between the maximum water surface elevations and the top of retaining banks of structures at their lowest point |
| green waste | means waste that originates from flora and which does not contain or has not been treated or coated with, preserving agents, biocides, fire retardants, paint, adhesives or binders |
| hardstand | means a surface with a permeability of 10 ⁻⁹ metres/second or less |
| Hazardous waste | has the meaning defined in Landfill Definitions |
| Implementation Agreement or Decision | has the same meaning given to that term under the EP Act. |
| Inert Waste Type 1 | has the meaning defined in Landfill Definitions |
| Inert Waste Type 2 | has the meaning defined in Landfill Definitions |
| Inspector | means an inspector appointed by the CEO in accordance with s.88 of the EP Act. |
| Landfill cells | means the landfill cells 2, 3, 5 and 6 used for the landfilling of waste at the Premises as defined in the application documents |
| leachate | means liquid released by or water that has percolated through waste and which contains some of its constituents |
| Licence | refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions. |
| Licence Holder | refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence. |
| NATA | means the National Association of Testing Authorities, Australia |
| NATA accredited | means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis |
| Pollution | has the same meaning given to that term under the EP Act. |
| Premises | refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Schedule 1 to this Licence. |
| Prescribed Premises | has the same meaning given to that term under the EP Act. |
| Primary Activities | refers to the Prescribed Premises activities listed on the front of this Licence as described in Schedule 2, at the locations shown in Schedule 1. |
| Reportable Event | means an exceedance above the target limit specified in Column 4 of Table 6, in Schedule 3. |
| Unreasonable Emission | has the same meaning given to that term under the EP Act. |
| Waste | has the same meaning given to that term under the EP Act. |
| six monthly | means the 2 inclusive periods from 1 April to 30 September and 1 October to 31 March in the following year |
| Special Waste Type 1 | has the meaning defined in Landfill Definitions |

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| Special Waste Type 2 | has the meaning defined in Landfill Definitions |
| spot sample | means a discrete sample representative at the time and place at which the sample is taken |
| Stage 1(b) of works | means works as specified in Table 10 of Section 13 of the document titled " <i>Works Approval W5663/2014/1 Amendment</i> " submitted by the Shire of Ravensthorpe via email on Monday 6 November 2017, limited specifically to those works relevant to category 62 solid waste depot activities - being the transfer station shed (only) and excluding the tip shop shed, which is not considered related to a prescribed activity regulated under this Licence. |
| stormwater management system | means the system of drains and swales for managing stormwater at the premises as depicted in Schedule 1 |
| tipping area | means the area of the landfill in which waste other than clean fill and cover material is being deposited |
| usual working day | means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia |

Interpretation

In this Licence:

- (a) the words 'including', 'includes' and 'include' will be read as if followed by the words 'without limitation';
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a Condition, each row in a table constitutes a separate Condition;
- (d) any reference to an Australian or other standard, guideline or code of practice in this Licence means the version of the standard, guideline or code of practice in force at the time of granting of this Licence and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the Licence; and
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act.

Conditions

General Conditions

1. Nothing in the Licence shall be taken to authorize any emission that is not mentioned in the Licence, where the emission amounts to:
 - (a) pollution;
 - (b) unreasonable emission;
 - (c) discharge of waste in circumstances likely to cause pollution; or
 - (d) being contrary to any written law.
2. The Licensee shall immediately recover, or remove and dispose of deposits of contaminated solid wastes, hazardous wastes, putrescible wastes, special wastes Type 1 (as specified in Table 2) outside an engineered containment system.
3. The Licensee shall:
 - (a) ensure all stormwater contaminated by waste is directed to the greenwaste and leachate collection storage ponds; and
 - (b) ensure uncontaminated stormwater is directed to the stormwater management system.

Premises Operation

4. The Licensee shall only accept waste on to the Premises if:
- it is of a type listed in Table 2;
 - the quantity accepted is below any quantity limit listed in Table 2;
 - it meets any specification listed in Table 2; and
 - in the case of contaminated solid waste is supported by documentation that demonstrates compliance with the acceptance criteria for Class II landfills.

Table 2: Waste acceptance

| Column 1 | Column 2 | Column 3 |
|--------------------------|----------------------------|--|
| Waste | Quantity Limit | Specification ¹ |
| Clean fill | As specified in Schedule 2 | None specified |
| Contaminated solid waste | | Must meet the acceptance criteria for Class II landfills |
| Green waste | | Must be free of non-green waste material |
| Hazardous | | Limited to waste oil, paint, vehicle batteries, and drum muster products |
| Inert waste Type 1 | | Waste containing visible asbestos or ACM shall not be accepted. |
| Inert waste Type 2 | | Tyres, plastic, scrap metal and vehicles only |
| Putrescible waste | | None specified |
| Recyclable items | | Including oil, metals and general kerbside recyclables |
| Special Waste Type 1 | | Asbestos and asbestos cement products only. |

Note 1: Additional requirements for the acceptance of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

5. The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in condition 6 it is immediately removed from the Premises by the delivery vehicle or, where that is not possible, the Licensee shall contact the CEO to agree a course of action in relation to the waste.
6. The Licensee shall ensure that wastes accepted onto the Premises are only subjected to the processes set out in Table 3 and in accordance with any process limits described in Table 3.

Table 3: Waste processing

| Column 1 | Column 2 | Column 3 |
|---------------------------------------|---|---|
| Waste type | Process | Process limits ^{1,2} |
| All | Disposal of waste by landfilling | (a) Shall only take place within the landfill area shown on the Landfill Area Map in Schedule 1; (b) No waste shall be temporarily stored or landfilled within 35 metres from the boundary of the premises; and (c) The separation distance between the base of the landfill sub-cell liners and the highest groundwater level shall not be less than 3 metres. |
| Clean Fill | Receipt, handling and disposal by landfilling | (d) None specified |
| Contaminated Solid Waste | | (e) Shall only be landfilled |
| Hazardous | | (f) Drum muster products must be triple rinsed prior to acceptance on the premises; and (g) Waste oil, paint and vehicle batteries must be stored in a covered area on a hardstand. |
| Inert Waste Type 1 | | (h) None specified. |
| Inert Waste Type 2 | Receipt, handling, storage prior to re-use | (i) Tyres shall not be landfilled. |
| Putrescible Waste | Receipt, handling, storage prior to disposal by landfilling | (j) Only to be stored in sealed containers on a hardstanding area, other than green waste. (k) Green waste shall only be stored in the green waste storage area. |
| | Disposal by burning | (l) Only green waste is to be burnt on site; (m) Green waste shall only be burnt if: (i) The green waste has been dried and seasoned for at least two months; (ii) The green waste is free of any contaminants; (iii) Burning only takes place in the designated burning area; and (iv) Burning only takes place under approval from a burning permit issued by the Shire of Ravensthorpe. |
| Special Waste Type 1 (Asbestos Waste) | Receipt, handling and disposal by landfilling | (n) Only to be disposed of into a designated asbestos disposal area within the landfill; (o) No works shall be carried out on the landfill that could lead to a release of asbestos fibres. |

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

7. The Licensee shall ensure that waste is only disposed of in landfill cells provided with the infrastructure detailed in Table 4 and depicted for that Class of landfill cell.

Table 4: Landfill infrastructure

| Column 1 | Column 2 | Column 3 |
|--------------------------------|---------------------------|---|
| Cell or Phase Number(s) | Class of Cell | Infrastructure requirements |
| 2, 3, 5 and 6 | Class II (Putrescible) | (a) Lined to achieve a permeability of 1×10^{-9} m/s or less; and (b) Leachate collection system. |

8. The Licensee shall ensure that leachate is only stored within vessels or compounds provided with the infrastructure detailed in Table 5.

Table 5: Containment infrastructure

| Column 1 | Column 2 | Column 3 |
|-----------------------------------|-----------------|--|
| Storage vessel or compound | Material | Infrastructure requirements |
| Landfill leachate pond | Leachate | (a) Lined to achieve a permeability of 1×10^{-9} m/s or less. |
| Green waste leachate pond | | |

9. The Licensee shall manage the landfilling activities to ensure:
- (a) the size of the tipping area is kept to a minimum and not larger than 2 metres high by 30 metres long;
 - (b) waste is levelled and compacted to ensure all faces are stable and capable of retaining rehabilitation material; and
 - (c) rehabilitation of a cell or phase takes place within 6 months after landfilling in that cell has been completed.

10. The Licensee shall ensure that cover is applied to waste in accordance with Table 6 and that sufficient stockpiles of cover are maintained on site at all times

Table 6: Cover requirements

| Column 1 | Column 2 | Column 3 | Column 4 |
|----------------------|--|----------|---|
| Waste Type | Material | Depth | Timescales |
| Inert Waste Type 2 | Inert Waste Type 1 or soil | 100mm | As soon as practicable after deposit |
| Putrescible Wastes | Inert Waste Type 1, soil or clay | 150mm | By 12pm of the next working day, after the waste was deposited |
| | Inert Waste Type 1, soil or clay | 1000mm | Within 6 months of achieving final waste contours. |
| Special Waste Type 1 | Inert Waste Type 1, clean fill or soil | 300mm | By the end of the working day in which the asbestos waste was deposited |

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

11. The Licensee shall install and maintain a capping system on each waste cell in accordance with the requirements of Table 7.

Table 7: Capping requirements

| Column 1 | Column 2 | Column 3 |
|----------------|--|--|
| Cell number(s) | Specification | Timescales |
| 2, 3, 5 and 6 | Intermediate capping: 300mm of clay with a permeability of $<1 \times 10^{-9}$ m/sec | Each cell to have intermediate capping applied following completion of the first fill. |
| | Final capping: 1000mm including a 300mm layer of clay with a permeability of $<1 \times 10^{-9}$ m/sec | Each cell to be capped within 6 months of achieving final landfill contours. |

12. The Licensee shall implement the following security measures at the site:
- erect and maintain suitable fencing to prevent unauthorised access to the site as far as is practicable;
 - ensure that any entrance gates to the premises are securely locked when the premises are unattended; and
 - undertake regular inspections of all security measures and repair damage as soon as practicable

13. The Licensee shall install and maintain a sign at the entrance to the Premises which clearly displays the following information:
 - (a) hours of operation;
 - (b) contact telephone number;
 - (c) a warning indicating penalties for people lighting fires;
 - (d) list of materials accepted for recycling and the location of where they can be deposited on the premises.
14. The Licensee shall take all reasonable and practical measures to ensure that no windblown waste escapes from the Premises and that windblown waste is collected on at least a weekly basis and returned to the tipping area.
15. The Licensee shall implement control measures to prevent infestations of pests, flies and vermin at the Premises.
16. The Licensee shall undertake activities on the Premises and manage asbestos and ACM in accordance with the Asbestos Management Plan.

Emissions

17. The Licensee shall record and investigate the exceedance of any descriptive or numerical limit or target specified in any part of this Licence.
18. Green waste shall not be burnt when the prevailing winds will direct smoke in a westerly or northerly direction.

Monitoring

19. The licensee shall ensure that:
 - (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
 - (c) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.
20. The Licensee shall ensure that six monthly monitoring is undertaken at least 5 months apart.
21. The Licensee shall undertake the monitoring in Table 8 according to the specifications in Table 8.

Table 8: Monitoring of inputs and outputs

| Column 1 | Column 2 | Column 3 | Column 4 | Column 5 |
|---------------|---|--|------------------|---|
| Input/Output | Parameter | Units | Averaging Period | Frequency |
| Waste Inputs | Clean fill, Contaminated solid waste, Inert Waste Type 1, Inert Waste Type 2, Putrescible waste, Special Waste Type 1, Special Waste Type 2 | tonnes (where a weighbridge is present on the site) | N/A | Each load arriving at the Premises |
| Waste Outputs | Waste type as defined in the <i>Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009)</i> | m ³ (where no weighbridge is present) | | Each load leaving or rejected from the Premises |

22. The Licensee shall undertake the monitoring in Table 9 according to the specifications in Table 9.

Table 9: Monitoring of ambient groundwater quality.

| Column 1 | Column 2 | Column 3 | Column 4 | Column 5 |
|--|--|------------------------------------|------------------|--------------------------|
| Monitoring point reference and location | Parameter | Units | Averaging period | Frequency |
| Groundwater monitoring bores (BH01, BH02, BH03, BH04 and BH05) as depicted in Schedule 1 | Standing water level ¹ | m (AHD) | Spot sample | Six monthly ² |
| | pH ¹ | pH units | | |
| | Ammonium – nitrogen | mg/ L | | |
| | Nitrate + nitrite - nitrogen | | | |
| | Potassium | | | |
| | Total dissolved solids | | | |
| | Total nitrogen | | | |
| | Total phosphorus | | | |
| | Total metals (aluminium; arsenic; barium; beryllium; boron; cadmium; chromium and hexavalent chromium; cobalt; copper; lead; manganese; mercury; molybdenum; nickel; selenium; vanadium; and zinc) | mg/ L | | |
| Total petroleum hydrocarbons | mg/ L | Once only for first sample secured | | |

Note 1: In-field non-NATA accredited analysis permitted

Note 2: When groundwater is present in the bores

Works

23. The Licensee shall complete the works in Table 10 by the date of completion in Table 10.

Table 10: Works

| Column 1 | Column 2 |
|--|--|
| Works | Date of completion |
| The Licensee must: (a) complete Stage 1(b) of works; and (b) submit the compliance document required under Condition 32. | Prior to the acceptance of Category 62 solid waste at the premises |

Record-keeping

24. All information and records required by the Licence shall:
- be legible;
 - if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
 - except for records listed in 24 (d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent Licence; and
 - for those following records, be retained until the expiry of the Licence and any subsequent Licence:
 - off-site environmental effects; or
 - matters which affect the condition of the land or waters.
25. The Licensee shall ensure that:
- any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
 - any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.
26. The Licensee shall complete a Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.
27. The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.
28. The Licensee shall maintain a register of Special Waste Type 1 (Asbestos waste) disposed of at the Premises which shall include a plan showing the position of Special Waste Type 1 (Asbestos waste) disposed of at the Premises.

Reporting

29. The Licensee shall submit to the CEO an Annual Environmental Report within 60 calendar days after the end of the annual period. The report shall contain the information listed in Table 11 in the format or form specified in that table.

Table 11: Annual Environmental Report

| Column 1 | Column 2 | Column 3 |
|----------------------------------|---|-----------------------------|
| Condition or table (if relevant) | Parameter | Format or form ¹ |
| - | Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken | None specified |
| Condition 4 | Documentation that demonstrates compliance with Class II landfills waste acceptance | None specified |
| Condition 19 | A list of monitoring methods used to collect and analyse monitoring samples required by any condition of this licence. | None specified |
| Condition 21 Table 8 | Summary of all inputs and outputs monitoring data which shall include: (a) data in a table format for the annual period; and (b) comment on annual inflow and outflow volumetric trends. | None specified |
| Condition 22 Table 9 | Summary of all monitoring data for ambient groundwater quality which shall include: (c) data in a table format for the annual period; and (d) data in graphical format for trend analysis to include at least the last four years data where available. | None specified |
| Condition 26 | Compliance | Compliance Report |
| Condition 27 | Complaints summary | None specified |

30. The Licensee shall ensure that the Annual Environmental Report also contains a list of any original monitoring reports submitted to the Licensee from third parties for the annual period and make these reports available on request.

Notification

31. The Licensee shall ensure that the parameters listed in Table 12 are notified to the CEO in accordance with the notification requirements of the table.

Table 12: Annual Environmental Report

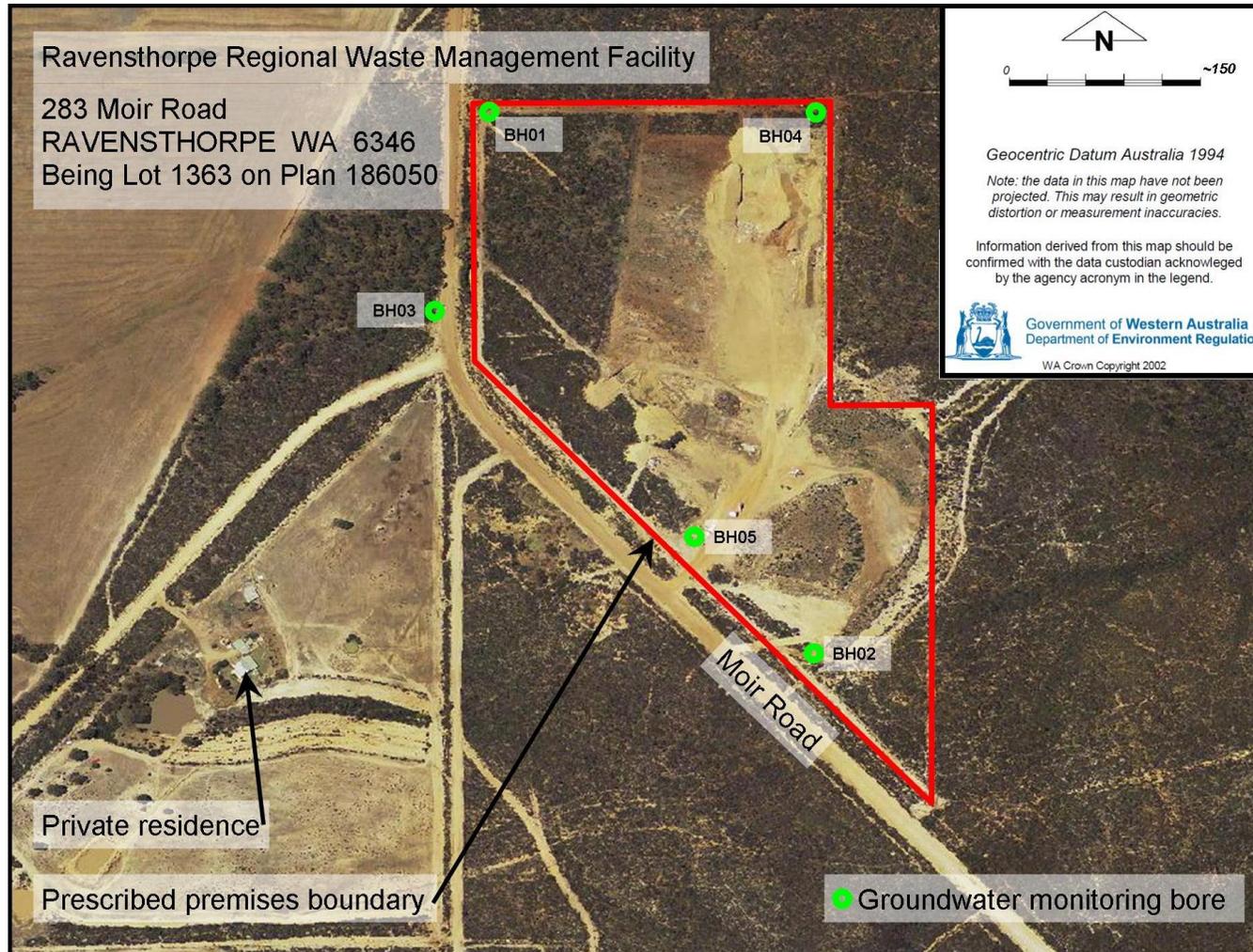
| Column 1 | Column 2 | Column 3 |
|----------------------------------|--|---|
| Condition or table (if relevant) | Parameter | Notification requirement ¹ |
| 2.1.1 | Breach of any limit specified in the Licence | Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable |
| - | Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution | |

32. The Licence Holder shall submit a compliance document to the CEO, following the construction of stage 1(b) of works and prior to commissioning of the same.
33. The compliance document shall:
- (a) certify that the works were constructed in accordance with the conditions of this licence; and
 - (b) be signed by a person authorised to represent the License Holder and contain the printed name and position of that person within the company.

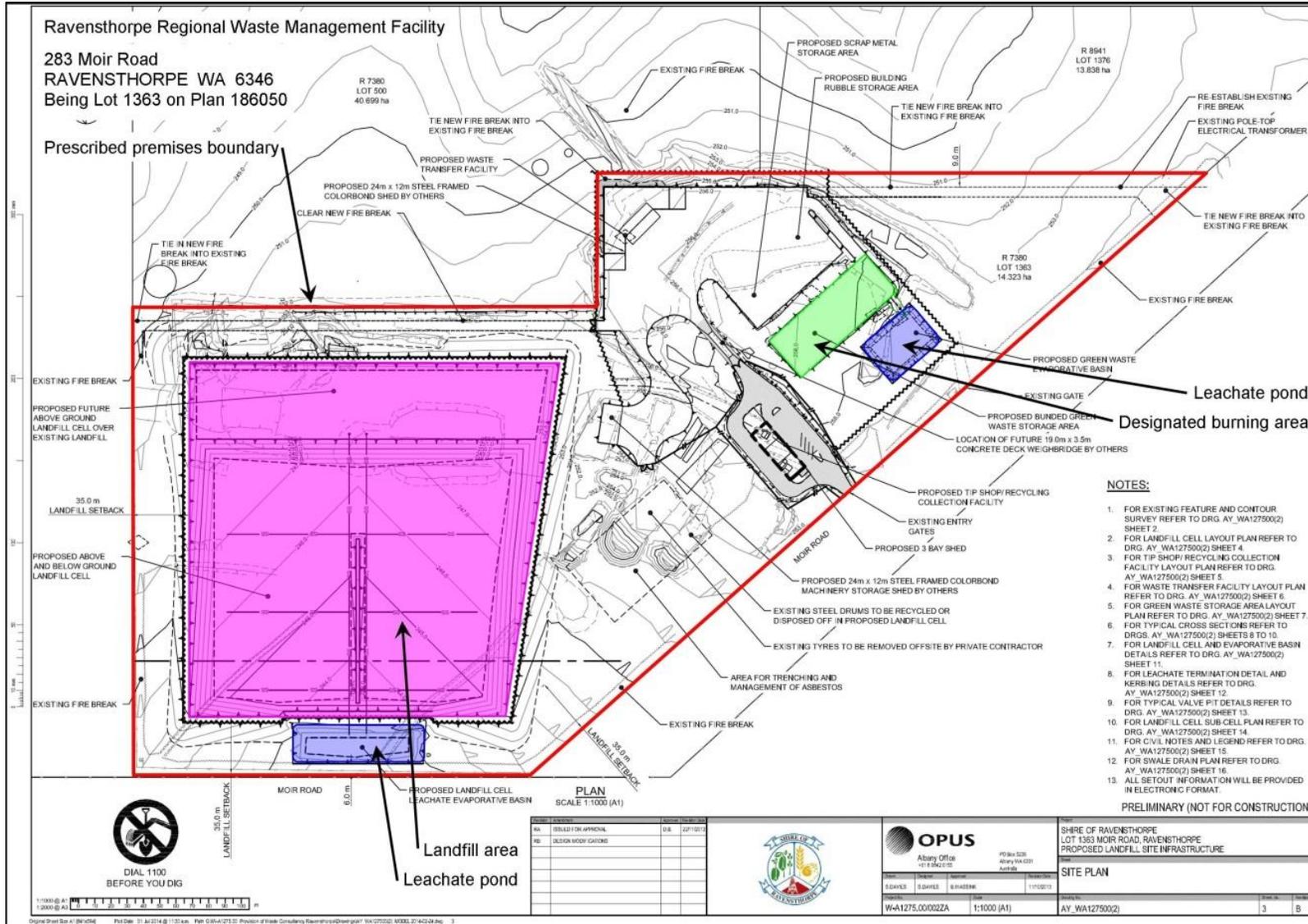
Schedule 1: Maps

Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary. The green points depict the monitoring bores.



The Premises is shown in the plan below. The red line depicts the Premises boundary.



Schedule 2: Primary Activities

At the time of assessment, Emissions and Discharges from the following Primary Activities were considered in the determination of the risk and related Conditions for the Premises.

The Primary Activities are listed in Table 13:

Table 13: Primary Activities

| Primary Activity | Premises production or design capacity |
|--|---|
| Category 62 – Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use. | Less than 500 tonnes per annual period |
| Category 64 – Class II or III putrescible landfill site: premise on which waste (as determined by reference to the waste type set out in the document entitled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer and as amended from time to time) is accepted for burial. | Less than 10 000 tonnes per annual period |



Application for Licence

Division 3, Part V *Environmental Protection Act 1986*

| | |
|-------------------------|---|
| Licence Number | L8839/2014/1 |
| Licence Holder | Shire of Ravensthorpe |
| File Number | DER2014/001936 |
| Premises | Ravensthorpe Waste Management Facility 283 Moir Road RAVENSTHORPE WA 6346 Legal description - Lot 1363 on Plan 186050 |
| Date of Report | 21 November 2017 |
| Status of Report | Final |

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1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

| Term | Definition |
|-------------------------------|---|
| AACR | Annual Audit Compliance Report |
| ACN | Australian Company Number |
| AER | Annual Environment Report |
| AS 4156.6 – 2000 | Australian Standard AS 4156.6 – 2000: Determination of Dust/moisture Relationship for Coal. |
| Category/ Categories/ Cat. | Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations |
| CS Act | <i>Contaminated Sites Act 2003 (WA)</i> |
| Decision Report | refers to this document. |
| Delegated Officer | an officer under section 20 of the EP Act. |
| Department | means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act. |
| DWER | Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation. |
| EPA | Environmental Protection Authority |
| EP Act | <i>Environmental Protection Act 1986 (WA)</i> |
| EP Regulations | <i>Environmental Protection Regulations 1987 (WA)</i> |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> |
| Existing Licence | The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this Review |
| Licence Holder | Shire of Ravensthorpe |

| | |
|---------------------|---|
| LWCWD | Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009) as published by the Department |
| m ³ | cubic metres |
| Minister | the Minister responsible for the EP Act and associated regulations |
| MS | Ministerial Statement |
| mtpa | million tonnes per annum |
| NEPM | National Environmental Protection Measure |
| Noise Regulations | <i>Environmental Protection (Noise) Regulations 1997 (WA)</i> |
| Occupier | has the same meaning given to that term under the EP Act. |
| PM | Particulate Matter |
| PM ₁₀ | used to describe particulate matter that is smaller than 10 microns (µm) in diameter |
| Prescribed Premises | has the same meaning given to that term under the EP Act. |
| Premises | refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report |
| Primary Activities | as defined in Schedule 2 of the Revised Licence |
| Review | this Licence review |
| Revised Licence | the amended Licence issued under Part V, Division 3 of the EP Act following the finalisation of this Review. |
| Risk Event | As described in <i>Guidance Statement: Risk Assessment</i> |
| Stage 1(b) of works | means works as specified in Table 10 of Section 13 of the document titled " <i>Works Approval W5663/2014/1 Amendment</i> " submitted by the Shire of Ravensthorpe via email on Monday 6 November 2017, limited specifically to those works relevant to category 62 solid waste depot activities, that being the transfer station shed (only) and excluding the tip shop shed, which is not considered related to a prescribed activity regulated under the Licence. |
| UDR | <i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i> |
| µg/m ³ | micrograms per cubic metre |
| µg/L | micrograms per litre |

2. Background

The Shires of Ravensthorpe and Jerramungup have formed a regional approach to delivery of waste management services. On this basis the existing Ravensthorpe Waste Disposal Site, located at Lot 1363 Moir Road (R7380) in the Shire of Ravensthorpe, is proposed to become a Regional Waste Management Facility (RWMF). The RWMF will service the towns of Ravensthorpe, Jerramungup, Bremer Bay, Munglinup, Hopetoun and some local mine sites. The Premises is currently an existing category 89 putrescible landfill site under *Environmental Protection Act 1986* registration R1667/2004/1. The proposed works will see a significant upgrade of the Premises and reduction in the risk to the environment. The Licensee applied for a Works Approval on 7 April 2014 and Licence on 28 August 2014. The Works Approval was advertised on 8 September 2014. The Licence was advertised on 6 October 2014.

The Licensee was granted Works Approval W5663/2014/1 on 4 September 2014 for the construction of:

- 1) The staged construction of six geosynthetic clay liner (GCL) based Class II landfill cells with leachate collection and control system;
- 2) A 1.2 metre high boundary fence complemented by 3.6 metre litter screens around the active landfill cell;
- 3) Stormwater drainage swales;
- 4) Designated asbestos burial area;
- 5) Dedicated tyre storage area (less than 100 tyres);
- 6) Dedicated green waste storage and burning area with a GCL lined stormwater and leachate evaporation pond; and
- 7) A waste transfer station comprised of: sealed roads; staff amenities; recyclables drop off area; drum muster compound; waste oil receptacle; waste oil drum storage area; battery storage; laydown areas for scrap metal, green waste, concrete and bricks; putrescible waste bins for public disposal; a tip shop and a (future) weighbridge .

It is proposed that the Premises will be licensed to accept the following types of waste:

- a) Clean fill;
- b) Type 1 inert wastes;
- c) Type 2 inert wastes (e.g. tyres and plastic);
- d) Putrescible wastes;
- e) Type 1 special wastes (waste containing asbestos and asbestos cement products);
- f) Storage of scrap metal/ car bodies;
- g) Stockpiling and burning green waste; and
- h) Accept and bury wastes that comply with Class II criteria in the LWCWD, as the landfill cell will be lined with a GCL; and
- i) A Solid Waste Depot to receive waste for storage, sorting pending final disposal or re-use in the form of a Waste Transfer Station so as to control access by the public to the landfill face.

The Licensee notified DWER on 6 November 2017 that works associated with Stage 1 of construction were complete, with the exception of the transfer station shed and tip-shop shed. In addition, sub-cell 1 was not constructed under Stage 1 and sub-cell 4 is unable to be constructed under Stage 3 due to historical burial of rubbish at that location. To enable prompt operation of the landfill, the Works Approval Holder applied on 6 November 2017 to amend Works Approval W5663/2014/1 to separate out the completed and incomplete construction required under Stage 1, and to modify Stages 2 and 3 to remove construction of sub-cells 1 and 4. Given the proposed amendment did not in any way alter the original activities to occur at the premises, only the proposed roll out of construction of each activity, the Delegated Officer considered that the emissions and associated risks posed by the original activities will not be altered.

As key infrastructure associated with category 64 Class II putrescible landfill site under Stage 1(a) had been constructed at the premises, and DWER has received compliance documentation in accordance with Works Approval W5663/2014/1, the Delegated Officer considered these works to have satisfied the requirements of Works Approval W5663/2014/1. As such, the Delegated Officer approved the amendment to the Works Approval relating to the Stage 1(a), Stage 2 and Stage 3 works construction schedule on 7 November 2017.

The Delegated Officer considers the Premises is operational-ready and is prepared to issue the draft Licence to that effect.

The infrastructure yet to be constructed at the premises under Stage 1(b) that is relevant to the category 62 solid waste depot activities is the transfer station shed. As DWER is yet to receive the required compliance documentation for this category, operation is unable to be authorised under the initial licence. However, the Delegated Officer considers the required construction for Stage 1(b) can be appropriately managed under licence conditions. Stage 1(b) has therefore been removed from the Schedule of Works appended to the amended works approval and will be included in this licence as an improvement condition.

Table 2 lists the prescribed premises categories that have been applied for.

Table 2: Prescribed Premises categories

| Classification of Premises | Description | Approved Premises production or design capacity or throughput |
|----------------------------|--|---|
| Category 64 | Class II or III putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial | Less than 10 000 tonnes per annual period |
| Category 62 | Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use. | Less than 5000 tonnes per annual period |

3. Legislative context

3.1 Part V of the EP Act

3.1.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations. The guidance statements which inform this assessment are:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Land Use Planning (February 2017)*
- *Guidance Statement: Licence Duration (August 2016)*
- *Guidance Statement: Publication of Annual Audit Compliance Reports (May 2016)*
- *Guidance Statement: Decision Making (November 2016)*
- *Guidance Statement: Risk Assessments (November 2016)*
- *Guidance Statement: Environmental Siting (November 2016)*

3.1.2 Registration, works approval and licence history

Table 3 summarises the registration, works approval and licence history for the premises.

Table 3: Registration, works approval and licence history

| Instrument | Issued | Nature and extent of works approval, licence or amendment |
|--------------|------------|---|
| R1667/2004/1 | 21/09/2004 | New Registration for Schedule 2 Putrescible landfill |
| R1667/2004/1 | 24/01/2013 | Amended Registration for Category 89 landfill premises: amended to Schedule 1 Part 2 Category 89 putrescible landfill site, addition of premises map |
| W5663/2014/1 | 08/09/2014 | New Works Approval to upgrade existing premises to Category 64 Class II or III landfill and Category 62 solid waste depot |
| W5663/2014/1 | 07/11/2017 | Amended Works Approval to alter the works required by Stage 1(a), 1(b), 2 and 3 to modify only the sequence for landfill sub-cell construction, as cells 1 and 4 will no longer be constructed. |
| L8839/2014/1 | 21/11/2017 | New Licence to upgrade existing premises to Category 64 Class II or III landfill and Category 62 solid waste depot, including construction of Stage 1(b) infrastructure being the transfer station shed only. |

3.1.3 Premises management plans

On 8 September 2014 DWER determined that a series of management plans were required to best manage the premises, outside the scope of the original Works Approval requirements.

Table 4 summarises the management plan scope and the submission date of each.

Table 4: Management plans

| Management Plan | Date of submission |
|---|--------------------|
| The Works Approval Holder shall submit to the CEO a Site Management Plan (SMP). The SMP shall detail all operational arrangements for the ongoing management of the landfill and solid waste depot which shall include: 1) The eight key elements identified within section 7.1 of the BEPM guidelines; and 2) Operational requirements to ensure the commitments of the post closure management plan are met, specifically progressive capping and rehabilitation requirements of the landfill cells. | 4 May 2015 |
| The Works Approval Holder shall submit to the CEO an amended Post Closure Management Plan (PCMP). The PCMP shall address each component within section 8.1 of the BEMP guidelines and detail the methodology for progressive capping and rehabilitation requirements of the landfill cells. | 8 April 2015 |
| The Works Approval Holder shall prepare and submit to the CEO an Asbestos Management Plan (AMP). As a minimum the AMP shall include: 1) Standard operational procedures (SOP's) for the pre-acceptance and acceptance of waste and how any asbestos detected on site will be managed; 2) Identification of each person's roles and responsibilities under the AMP and 3) Procedures for detailing incidents or emergencies associated with asbestos; that are consistent with the DER Asbestos Guidelines. | 11 March 2015 |

3.1.4 Clearing

A clearing permit CP2007/1 was granted on 28 August 2013 with an expiry of 3 May 2018. An application to amend clearing permit CP2007/1 was granted on 28 August 2014 with an expiry of 3 May 2028.

4. Risk Assessment

The proposed project was assessed for risk events via a concurrent application for Works Approval and Licence as granted on 8 September 2014. The Decision Document outlining the risk assessment is attached at Appendix 1.

The Delegated Officer has reviewed the previous Decision Document and determined that the risk assessment remains valid.

5. Determination of Licence conditions

The conditions in the issued Licence in Attachment 1 have been determined in accordance with the *Guidance Statement: Setting Conditions*.

The *Guidance Statement: Licence Duration* has been applied and the issued licence expires 20 years from date of issue.

The Delegated Officer has reviewed the draft Licence and determined that the conditions remain valid, with the following alterations:

- Removal of redundant draft conditions 1.2.2 and 1.2.3.
- Administrative changes to spelling, grammar, condition numbering and referencing;
- Alteration of definition for Landfill Cells to remove sub-cells 1 and 4 for consistency with the amended Works Approval W5663/2014/1;
- Addition of definition for Stage 1(b) of works for consistency with the amended Works Approval W5663/2014/1;
- Deletion of definition for Construction Quality Assurance Plan, as it relates to deleted draft condition 5.3.2;
- Alteration to draft condition 2 to specify types of wastes to be recovered, removed or disposed of;
- Alteration to draft condition 4 Table 2 to specify the Quantity Limits for waste types to Schedule 2;
- Alteration to draft condition 6 Table 3 to:
 - section (c) to add the wording “sub-cell liners”; and
 - delete draft section (h) referring to household chemical waste to be stored on the Premises, as the Applicant has advised this is not required;
- Alteration to draft condition 7 Table 4 to delete cells 1 and 4 for consistency with the amended Works Approval W5663/2014/1;
- Alteration to draft condition 7 Table 4 (a) to read “Lined to achieve a permeability of 1×10^{-9} m/s or less”;
- Alteration to draft condition 8 Table 5 (a) to read “Lined to achieve a permeability of 1×10^{-9} m/s or less”;
- Alteration to draft condition 9 (c) to enable rehabilitation of cells within 6 months after landfilling;
- Alteration to draft condition 10 Table 6 to enable cells to be covered within 6 months of achieving final waste contours;
- Removal of draft condition 1.3.14. The Licence does not permit the construction of landfill sub-cells, therefore this condition is redundant.
- Removal of draft condition 2.6.1 managing the emission of dust from the Premises. The Delegated Officer considers this condition to be generic and non-site specific, and that this issue is more appropriately controlled under section 49 of the Act;
- Removal of draft condition 2.7.1 managing the emission of odour from the Premises. The Delegated Officer considers this condition to be generic and non-site specific, and that this issue is more appropriately controlled under section 49 of the Act;
- Alteration to condition 22 Table 9 to correctly name the bores BH01-BH05;

- Alteration to condition 22 Table 9 to include a second notation to clearly state sampling is only required when groundwater is present in the bores at that 6 monthly interval.
- Addition of condition 23 and Table 10 to facilitate construction of the Category 62 solid waste infrastructure prior to operation of Category 62 activities under this Licence;
- Alteration to condition 26 to correctly name the Compliance Report for reporting purposes;
- Alteration to condition 29 to correctly name the Compliance Report for reporting purposes;
- Removal of draft condition 5.3.2 requiring the submission of a Construction Quality Assurance Validation Report following construction of a stage of works. The Delegated Officer does not consider it necessary for this report to be submitted under the Licence, as it relates to the quality assurance of the construction of the geotextile clay liner for the landfill sub-cells and leachate drainage systems. The Licence does not permit the construction of landfill sub-cells and leachate drainage systems, therefore reporting is redundant;
- Addition of conditions 32 and 33 to ensure completion of Stage 1(b) of works is completed in accordance with licence conditions and notified to the CEO;
- Addition of Schedule 2 Primary Activities and alteration to the Premises production or design capacity limits, to correctly reflect the limits applied for by the Licensee.

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the licence under the EP Act.

6. Applicant's comments

The Applicant was provided with the draft Decision Report and draft Licence on 17 November 2017. The Applicant provided comments on the draft documents on 20 November 2017 which are summarised below, along with DWER's response.

- The Applicant advised chemical household waste will not be stored at the Premises, so DWER modified condition 6.
- The Applicant advised cells 1 and 4 would not be constructed, as per the amended Works Approval W5663/2014/1, so DWER modified condition 7, 11 and the definition of Landfill cells.
- The Applicant requested a modification to the timescale for covering of putrescible wastes, as the landfill is not manned full time yet waste can be deposited after hours. DWER has modified the timescale to ensure putrescible wastes are covered by 12pm of the next working day, after the waste was deposited.
- The Applicant advised the Ravensthorpe town site is to the north of the landfill premises, and as such should not be permitted to burn greenwaste if the prevailing winds would direct smoke northerly, as well as westerly. DWER has modified condition 18 accordingly.
- The Applicant requested conditions 19, 20 and 21 be deleted due to there having never been groundwater present in any of the 5 bores, therefore the Applicant will not be able to sample groundwater. The Delegated Officer notes this historical lack of groundwater, however the Delegated Officer also notes the close proximity of the landfill to rural residential properties, the Ravensthorpe Catchment Area Public Drinking Water Source Area and the Kondinin-Ravensthorpe Proclaimed Groundwater Area. Therefore the Delegated Officer has retained the condition on the chance water is present, to ensure early detection of chemical parameters should groundwater become available, however has added notation to indicate that sampling is only required when groundwater is present in the bores at the 6 monthly interval. The applicant's representative has advised that bores are checked on a monthly basis.

7. Conclusion

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Decision Report (summarised in Appendix 2).

Based on this assessment, it has been determined that the issued Licence will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Steve checker

MANAGER LICENSING (WASTE INDUSTRIES)

Delegated Officer

under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Decision Document



Government of **Western Australia**
Department of **Environment Regulation**

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Shire of Ravensthorpe

Works Approval: W5663/2014/1

Registered office: Shire of Ravensthorpe
65 Morgan St
RAVENSTHORPE WA 6346

Premises address: Ravensthorpe Waste Management Facility
283 Moir Road
RAVENSTHORPE WA 6346
Being Lot 1363 on Plan 186050 as depicted in Schedule 1.

Issue date: Thursday, 4 September 2014

Commencement date: Monday, 8 September 2014

Expiry date: Saturday, 7 September 2019

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue a works approval. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Works Approval and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Peter van Schoubroeck
Licensing Officer

Decision Document authorised by: Caron Goodbourn
Manager Licensing



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application for a works approval or licence, and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



2 Administrative summary

| Administrative details | | |
|--|---|---|
| Application type | Works Approval <input checked="" type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input type="checkbox"/> | |
| Activities that cause the premises to become prescribed premises | Category number(s) | Assessed design capacity |
| | 62 | 500 tonnes or more per year |
| | 64 | 10 000 tonnes or more per year |
| Application verified | Date: 15/04/2014 | |
| Application fee paid | Date: 30/04/2014 | |
| Works Approval has been complied with | Yes <input type="checkbox"/> No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| Compliance Certificate received | Yes <input type="checkbox"/> No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| Commercial-in-confidence claim | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Commercial-in-confidence claim outcome | Not applicable | |
| Is the proposal a Major Resource Project? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/> |
| Is the proposal subject to Ministerial Conditions? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Ministerial statement No: EPA Report No: |
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Department of Water consulted Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Is the Premises within an Environmental Protection Policy (EPP) Area | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Is the Premises subject to any EPP requirements? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |



3 Executive summary of proposal

The Shires of Ravensthorpe and Jerramungup have formed a regional approach to delivery of waste management services. On this basis the existing Ravensthorpe Waste Disposal Site, located at Lot 1363 Moir Road (R7380) in the Shire of Ravensthorpe, is proposed to become a Regional Waste Management Facility (RWMF). The RWMF will service the towns of Ravensthorpe, Jerramungup, Bremer Bay, Munglinup, Hopetoun and some local mine sites. The Premises is currently an existing category 89 putrescible landfill site under *Environmental Protection Act 1986* registration R1667/2004/1. The proposed works will see a significant upgrade of the Premises and reduction in the risk to the environment. The works approval application is for the construction of:

- 1) The staged construction of six geosynthetic clay liner (GCL) based Class II landfill cells with leachate collection and control system;
- 2) A 1.2 metre high boundary fence complemented by 3.6 metre litter screens around the active landfill cell;
- 3) Stormwater drainage swales;
- 4) Designated asbestos burial area;
- 5) Dedicated tyre storage area (less than 100 tyres);
- 6) Dedicated green waste storage and burning area with a GCL lined stormwater and leachate evaporation pond; and
- 7) A waste transfer station comprised of: sealed roads; a weighbridge; staff amenities; recyclables drop off area; drum muster compound; waste oil receptacle; waste oil drum storage area; battery storage; laydown areas for scrap metal, green waste, concrete and bricks; putrescible waste bins for public disposal; and a tip shop.

It is proposed that the Premises will be licenced to accept and/ or bury the following types of waste:

- a) Clean fill;
- b) Type 1 inert wastes;
- c) Type 2 inert wastes (e.g. tyres and plastic);
- d) Putrescible wastes;
- e) Type 1 special wastes (waste containing asbestos and asbestos cement products) ;
- f) Storage of scrap metal/ car bodies;
- g) Stockpiling and burning green waste; and
- h) Accept and bury wastes that comply with Class II criteria in the document titled *Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009)*, as the landfill cell will be lined with a GCL; and
- i) A Solid Waste Depot to receive waste for storage, sorting pending final disposal or re-use in the form of a Waste Transfer Station so as to control access by the public to the landfill face.

The Premises activity capacities are summarised in the table below:

| Category number and description | Category production or design capacity | Approved Premises production or design capacity | Maximum available void space |
|---|--|---|---|
| Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use. | 500 tonnes or more per year | 500 tonnes or more per year | Not applicable |
| Category 64: Class II putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial. | 20 tonnes or more per year | 10,000 tonnes or more per year | Estimated 260,000 m ³ equivalent to about 182,000 tonnes |



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

| DECISION TABLE | | | | |
|---|---|-------------|---|---|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference documents |
| General conditions and Premises operation | L1.3.1 through to L1.3.15 | OSC and NSC | <p>Construction No general conditions are considered relevant under the works approval for the Premises.</p> <p>Operation DER's assessment and decision making are detailed in Appendix A.</p> | <p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p><i>Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations, 2004</i></p> |
| | | | <p>Construction and Operation Descriptive limits will be set through condition 2.6.1, 2.6.2 and 2.7.1 of the licence, 2.6.1 and 2.7.1 of the works approval and therefore OSC regarding the recording and investigation of a descriptive target or limit being exceeded has been included.</p> | <p>Application supporting documentation</p> |
| Emissions general | L2.1.1; and W2.1.1 | OSC | | |



| DECISION TABLE | | | | |
|--|---|------------|--|--|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference documents |
| Point source emissions to air including monitoring | L2.2; L3.2; W2.2; and W3.2; | N/A | Construction and Operation There are no point source emissions to air expected to occur from the Premises during construction or operation, therefore no conditions are required. | Application supporting documentation |
| Point source emissions to surface water including monitoring | L2.3; L3.3; W2.3; and W3.3; | N/A | Construction and Operation There are no point source emissions to surface water expected to occur from the Premises during construction or operation, therefore no conditions are required. | Application supporting documentation |
| Point source emissions to groundwater including monitoring | L2.4; L3.4; W2.4; and W3.4; | N/A | Construction and Operation There are no point source emissions to groundwater expected to occur from the Premises during construction or operation, therefore no conditions are required. | Application supporting documentation |
| Emissions to land including monitoring | L2.5; L3.5; W2.5; and W3.5; | N/A | Construction and Operation There are no emissions to land expected to occur from the Premises during construction or operation, therefore no conditions are required. The new lined landfill cells and leachate collection system will reduce the risk of emissions to land from landfilling activities. There is the risk of leachate emissions to the environment during operation under emergency situations should the landfill liner and leachate collection system fail, and there remains the potential for leachate egress from older and historic areas of waste deposition. The data from monitoring proposed under OCS 3.8.1 will assist in the detection of leachate migration as a result of historic and ongoing landfill practices. | Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i> |



| DECISION TABLE | | | | |
|----------------------------------|---|-------------|--|--|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference documents |
| Fugitive emissions | L2.6.1; L2.6.2; and W2.6.1 | OSC and NSC | <p>Construction and Operation Emission description: Under abnormal construction and operating conditions the emission of dust may occur. No emissions are expected under normal operating conditions or from reasonably expected emergency situations. Consequence: Minor Likelihood: Unlikely Risk Rating: Moderate</p> <p>Operation Emission description: Under abnormal operating conditions the emission of smoke impacting a sensitive receptor is possible. Consequence: Minor Likelihood: Possible Risk Rating: Moderate</p> <p>The standard dust management condition in conjunction with the Site Management Plan, required under condition 4.1.2 improvement reference IR2, will be required to address the risk of dust emissions during construction and operations. During operation there is the potential for smoke emissions from the Premises to occur when undertaking green waste burning operations. Due to the presence of a private residence located 350 metres to the west of the Premises and 500 metre from the designated green waste burning area, licence condition 2.6.2 will be required for the management of smoke emissions.</p> | <p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations, 2004</i></p> |



DECISION TABLE

| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference documents |
|----------------------------------|---|------------|---|---|
| Odour | L2.7.1; and W2.7.1 | OSC | <p>Construction and Operation Emission description: Under abnormal construction and operating conditions the emission of odour may occur. No emissions are expected under normal operating conditions. Consequence: Minor Likelihood: Unlikely Risk Rating: Moderate</p> <p>No odour emissions are expected from the construction of the landfill and solid waste depot, the works do not propose to move volumes of previously covered waste and investigations have not identified previous fill within the new cell area. There is the potential for odour emissions to occur as a result of operations at the Premises should waste be uncovered during works or not be adequately managed during operation. The standard odour management condition in conjunction with the Site Management Plan, required under condition 4.1.2 improvement reference IR2, will be required to address the risk of odour emissions during operations.</p> | <p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986</i></p> |
| Noise | L2.8; and W2.8 | N/A | <p>Construction and Operation Emission description: Noise, beyond that generated under normal construction and operating conditions. Consequence: Insignificant Likelihood: Rare Risk Rating: Low</p> <p>No noise emissions are expected from the construction or operation of the landfill and solid waste depot that will require specified conditions. Noise emissions under abnormal conditions and emergency situations can be addressed under the <i>Environmental Protection (Noise) Regulations 1997</i> regulatory framework.</p> | <p>Application supporting documentation</p> <p><i>Environmental Protection (Noise) Regulations 1997</i></p> |



| DECISION TABLE | | | |
|----------------------------------|---|------------|---|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) |
| Monitoring general | | | <p>Construction</p> <p>There are no emissions expected to occur from the Premises during construction that require monitoring. Due to the Premises operating as an existing landfill, ambient environmental groundwater monitoring will be required under the works approval prior to the issue of a licence to ensure greater continuity of data to assess the risk of emission to land which is considered to be relevant under the operation of the Premises.</p> |
| | W3.1.1 and W3.1.2 L3.1.1 and L3.1.2 | OSC | <p>Operation</p> <p>Emission description: Under an emergency situation the discharge of leachate may occur from a compromised landfill cell liner. Under an emergency situation a discharge from a leachate containment pond may occur via overflow or seepage from a compromised liner. Under an emergency situation the discharge of environmental hazardous material may occur via the stormwater management system from the solid waste depot. No emissions are expected during operation.</p> <p>Consequence: Moderate Likelihood: Unlikely Risk Rating: Moderate</p> <p>There is the risk of leachate emissions to the environment during operation should the landfill liner and leachate collection system not be constructed to the design standard. There also remains the risk of leachate emissions from the existing landfilled waste which is not subject to a liner or leachate collection system. These items will be addressed in the Site Management Plan. Subsequently ambient environmental quality monitoring will be required for groundwater at the Premises under OSC 3.8.1. To ensure appropriate quality control of the sampling program and sample processing OSC conditions 3.1.1 and 3.1.2 have been included.</p> |

Application supporting documentation
General provisions of the *Environmental Protection Act 1986*



| DECISION TABLE | | | | |
|----------------------------------|---|------------|--|---|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference documents |
| Monitoring of inputs and outputs | L3.6.1 | N/A | <p>Construction There are no emissions expected to occur from the Premises during construction that require monitoring of inputs and outputs.</p> <p>Operation Emission description: acceptance, storage and disposal of waste beyond the capacity of the Premises or at a waste classification beyond the design specifications of the Premises. Consequence: Moderate Likelihood: Unlikely Risk Rating: Moderate</p> <p>Monitoring of inputs and outputs from the Premises will be required when operating to ensure design capacities are not exceeded, to ensure specified waste acceptance criteria are met and detail where waste is rejected from the Premises based on its classification under the document <i>Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009)</i>.</p> <p>Construction and Operation There are no emissions expected to occur from the Premises during construction or operation that require process monitoring conditions.</p> | <p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986</i></p> |
| Process monitoring | N/A | N/A | <p>Construction and Operation There are no emissions expected to occur from the Premises during construction or operation that require process monitoring conditions.</p> | <p>Application supporting documentation</p> |



| DECISION TABLE | | | | |
|----------------------------------|---|------------|--|---|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference documents |
| Ambient quality monitoring | L3.8.1; and W3.8.1 | OSC | <p>Construction</p> <p>There are no emissions expected to occur from the Premises during construction that require ambient quality monitoring. The risk of leachate from existing landfilled waste is an operational issue.</p> <p>Operation</p> <p>Emission description: Under an emergency situation the discharge of leachate may occur from a compromised landfill cell liner. Under an emergency situation a discharge from a leachate containment pond may occur via overflow or seepage from a compromised liner. Under an emergency situation the discharge of environmental hazardous material may occur via the stormwater management system from the solid waste depot. No emissions are expected during operation.</p> <p>Consequence: Moderate Likelihood: Unlikely Risk Rating: Moderate</p> <p>There is the risk of leachate emissions to the environment during operation should the landfill liner and leachate collection system not be constructed to the design standard or fail during operation. There also remains the risk of leachate emissions from the existing landfilled waste which is not subject to a liner or leachate collection system. Subsequently ambient environmental quality monitoring will be required for groundwater at the Premises under OSC 3.8.1. To ensure appropriate quality control of the sampling program and sample processing OSC conditions 3.1.1 and 3.1.2 have been included.</p> | <p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986</i></p> |
| Meteorological monitoring | N/A | N/A | <p>Construction and Operation</p> <p>There are no emissions expected from the Premises during construction or operations that require meteorological monitoring conditions.</p> | <p>Application supporting documentation</p> |



| DECISION TABLE | | | | |
|----------------------------------|---|-------------|--|---|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference documents |
| Improvements | W4.1.1 | OSC and NSC | <p>Construction DER's assessment and decision making are detailed in Appendix B.</p> <p>Operation No improvement conditions are considered relevant under the licence for the operation of the Premises; relevant issues are being addressed through the works approval.</p> | <p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986</i></p> |



| DECISION TABLE | | | |
|----------------------------------|---|------------|--|
| Works Approval / Licence section | Condition number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) |
| Information | W5.1.3 L5.3.2 | NSC | <p>Construction and Operation</p> <p>Emission description: There is the risk of leachate emissions to the environment during operation should the landfill liner and leachate collection system not be constructed to the design standard or fail during operation.</p> <p>Consequence: Moderate Likelihood: Unlikely Risk Rating: Moderate</p> <p>A Construction Quality Assurance Plan (CQAP) is required to be developed under the works approval improvement reference IR1. The CQAP is required to: define the material specifications; set out the methodology of the works program; define the construction quality assurance parameters for the works; how construction quality assurance parameters will be audited; how issues in the works will be addressed; and provide an overview of how the works program will be implemented addressing construction issues, verification points and contingency resolution. The CQAP will serve as the basis for ensuring each stage of works (landfill cell development) will be undertaken in a manner to reduce the risk of leachate emission during operations. Subsequent to the completion of a stage of the works (landfill cell development) the works approval holder will be required to submit a Construction Quality Assurance Validation Report (CQAVR). The CQAVR will serve to ensure that the landfill liner and leachate collection system were installed to the design specification and followed the requirements stipulated within the CQAP. The CQAVR reporting will be required under licence condition 5.3.2 for future stages of the landfill and leachate collection system construction. The basis for a CQAP/ CQAVR is set out within the section 6.4 of the BPEM guidelines (EPA Victoria 2010). Under the BPEM guidelines the Premises is consistent with a low risk regional landfill (type 3) due to the low annual tonnages of waste, distance to above ground receptors and depth to groundwater.</p> |

Reference documents

Application supporting documentation
General provisions of the *Environmental Protection Act 1986*



REFERENCES:

- Department of Environment and Conservation 2012, *Guidelines for managing asbestos at construction and demolition waste recycling facilities*, Government of Western Australia;
- Environmental Protection Authority Victoria 2010, *Best practice environmental management siting, design, operation and rehabilitation of landfills, Publication 788.1*, Government of Victoria;

5 Advertisement and consultation table

| Date | Event | Comments received/Notes | How comments were taken into consideration |
|------------|---|--|--|
| 05/05/2014 | Application advertised in West Australian (or other relevant newspaper) | None applicable | None applicable |
| 29/05/2014 | Application referred to interested parties listed <ul style="list-style-type: none">• Department of Water | <ul style="list-style-type: none">• Ravensthorpe water reserve, groundwater monitoring, landfill cell liner type and water quality risks | <ul style="list-style-type: none">• Additional groundwater monitoring parameters, confirmation that stormwater management detail is being addressed. |
| 04/08/2014 | Proponent sent a copy of draft instrument | Minor administrative changes | Changes accepted |
| 08/09/2014 | Instrument issue advertised in West Australian (or other relevant newspaper) | | |



6 Risk assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

| Likelihood | Consequence | | | | |
|-----------------------|-----------------|-----------------|-----------------|-----------------|----------------|
| | Insignificant | Minor | Moderate | Major | Severe |
| Almost Certain | Moderate | High | High | Extreme | Extreme |
| Likely | Moderate | Moderate | High | High | Extreme |
| Possible | Low | Moderate | Moderate | High | Extreme |
| Unlikely | Low | Moderate | Moderate | Moderate | High |
| Rare | Low | Low | Moderate | Moderate | High |



Appendix A

GENERAL CONDITIONS AND PREMISES OPERATION

The Premises will have topography gently sloping down to the west and south west. A ridge line is located within the eastern portion of the Premises running north/ south. The proposed stormwater management system will ensure that all stormwater and contaminants potentially present under abnormal operating conditions are directed away from the eastern side of the Premises. Uncontaminated stormwater under normal operating conditions will be discharged along the western boundary of the Premises. There are limited temporary stores of environmentally hazardous substances; these are located on hardstand areas with the waste oil recovery tank located within a shed. There is the risk of leachate emissions to the environment during operation under emergency situations should the landfill liner and/ or leachate collection system fail. Additional cells, up to the six authorised cells, will be commissioned under the licence following initial major construction under the works approval. Subsequently appropriate quality assurance processes will be required to ensure the integrity of new cell liners are maintained.

There are no emissions expected during construction works, beyond general construction noise levels, as outlined in the works approval application supporting document that require additional general conditions to be specified. There are no emissions expected during operation of the landfill and solid waste depot. There is the potential for emissions to occur as a result of: contaminated stormwater; inappropriate waste type acceptance; inappropriate processing, containment and disposal of certain waste types; illegal access and dumping; leachate; and vermin and pests.

A Site Management Plan (SMP) will be required to support the licence application for the landfill. Subsequently, to ensure the SMP and future operations of the Premises are compliant with the operation licence conditions for the management of a Class II landfill and a solid waste depot the general condition framework for the licence has been included. General operational conditions are included to ensure that the risk of emissions from the Premises is appropriately controlled. Subsequently the following details the rationale for the optional standard and non-standard conditions included within the general condition (section 1.2) and Premises operation (section 1.3) sections of the licence.

Emission Description:

- 1) **Emission:**
 - a) Under normal operating conditions no point source emissions are authorised, expected or planned from the Premises and no significant diffuse or fugitive emissions are authorised, expected or planned from the Premises.
 - b) Under abnormal operational conditions there is the potential for contaminated stormwater; inappropriate waste type acceptance; inappropriate processing, containment and disposal of certain waste types including asbestos; illegal access and dumping; leachate from previously filled waste; and vermin and pests.
 - c) Under emergency situations there is the potential for leachate emissions to occur from the new waste cells.
- 2) **Impact:**
 - a) No impact is expected under normal operating conditions.
 - b) Abnormal operational conditions could result in contaminants being discharged to the environment and impacting local groundwater, surface water and/ or fauna and flora.
 - c) Emergency situations could result in nutrients, heavy metals and other contaminants leaching from the landfilled waste mass into the local groundwater.
- 3) **Controls:**
 - a) Normal operating conditions will be maintained via the development of a Site Management Plan (SMP). The SMP will be consistent with the operating conditions of the licence, once construction of the Premises to an appropriate standard is complete, and ensure the following objectives are met: maintaining site security; staffing and



maintenance of the Premises; maintaining stormwater catchments free of contaminants; controlling the type of waste accepted; waste is appropriately processed, contained and disposed; illegal access, dumping, vermin and pests are reasonably controlled.

Groundwater monitoring will be used to indicate the risk and incidence of leachate migration from the Premises.

- b) Abnormal operating conditions will be controlled by maintaining the controls to ensure normal operating conditions occur at the Premises.
- c) Groundwater monitoring will be used to indicate the risk and incidence of leachate migration from the Premises. A Construction Quality Assurance Plan will be developed under the works approval prior to the installation and commissioning of the initial landfill infrastructure. Subsequently a Construction Quality Assurance Validation Report will be submitted under the works approval and licence respectively for each new landfill stage commissioned.

Risk Assessment:

- 1) **Scope:** This risk assessment is for the abnormal operational conditions and emergency situations only. Normal operating conditions will pose a low risk.
- 2) **Factors of consequence:**
 - a) Agents for consideration in this risk assessment are asbestos, nutrients, heavy metals, hydrocarbons and potentially other contaminants within leachate or contaminated stormwater.
 - b) Receptors are people, the local groundwater and surface water and proximate flora and fauna. At a distance the significant receptors to note are agricultural dams and the Ravensthorpe catchment Public Drinking Water Supply Area.
 - c) Airborne asbestos could be inhaled. Agricultural dams are located less than one kilometre to the west and southwest of the Premises. The Ravensthorpe catchment Public Drinking Water Supply Area located about 1.4 km to the east.
- 3) **Factors of likelihood:**
 - a) The new landfill cells, leachate collection ponds, stormwater management system and solid waste depot infrastructure will be new and meet the appropriate standards.
 - b) Management systems will be based on the Site Management Plan.
 - c) Management performance and mechanisms cannot be assessed in an operational context as the Premises is yet to be constructed or operate.
- 4) **Risk assessment finding:**

Consequence: Moderate (*Major for asbestos inhalation*)
Likelihood: Unlikely
Risk Rating: Moderate

Regulatory Controls:

Regulatory controls for the management of normal operating conditions, abnormal operational conditions and emergency situations are proposed in section 1.2 and 1.3 of the licence.

- 1) **Condition 1.2.5:** The Premises has two dedicated HDPE lined collection ponds, one for the leachate collection system and the other for the green waste burning area. Other waste collection and storage facilities are located under cover and within sheds. A stormwater management system is located along the lower profile boundaries of the Premises which include a series of swales and rock riffles prior to discharge to the environment. Non-standard condition 1.2.5 has been included to ensure: that stormwater contaminated by leachate, waste within the landfill cells and waste within the green waste storage and burning area are collected and contained within the HDPE lined ponds; and that uncontaminated stormwater is managed through the dedicated management system to reduce the risk of erosion, infiltration and pooling of stormwater and the Premises.
- 2) **Condition 1.3.1:** The Premises is authorised to accept, dispose of and recycle a fixed group of wastes, these are detailed within Table 1.3.1. Acceptance and disposal and/ or storage of wastes other than those listed in Table 1.3.1 within the relevant specifications could pose a risk



- of emissions from the Premises that have not been considered when establishing the sites management arrangements.
- 3) **Condition 1.3.2:** The Premises will be staffed when open to the public; subsequently the waste being delivered to the Premises can be audited and rejected where it does not meet the acceptance criteria set out in Table 1.3.1.
 - 4) **Condition 1.3.3:** The Premises has dedicated waste management, storage and disposal areas which reflect the intended disposal or reuse option for the waste type. Specification of the processes to which waste types are limited to are set out in Table 1.3.2. The process limits ensure that waste is not managed in a manner that will lead to unacceptable risk of emission to the environment and mirror the operational practices detailed in the proposed Site Management Plan.
 - 5) **Condition 1.3.4:** The Premises will manage the risk associated with leachate egress from landfilled waste with the new landfill cell composite liner and leachate collection system; consequently, waste may only be landfilled within the approved and appropriately lined landfill cells.
 - 6) **Condition 1.3.5:** The Premises will manage the risk of leachate as a result of wastes situated within the new landfill cells and residues arising within the green waste burning area by maintaining the appropriately lined leachate collection ponds designed to hold a decile nine, one in ten year rainfall event and see all leachate volumes managed by evaporation.
 - 7) **Condition 1.3.6:** The Premises landfill area will be managed to ensure the risk of windblown waste, leachate generation and occurrence of vermin are minimised. The landfilling management requirements will ensure these risks are minimised.
 - 8) **Condition 1.3.7:** The Premises landfill area will be managed to ensure the risk of windblown waste, leachate generation and occurrence of vermin are minimised. The landfill cover requirements will ensure these risks are minimised.
 - 9) **Condition 1.3.8:** The Premises landfill area will be managed to minimise leachate generation and erosion of the landfill cover material. The landfill capping requirements will ensure the risks associated with these are minimised post closure.
 - 10) **Condition 1.3.9:** The Premises will be managed to ensure the risks associated with illegal access and waste dumping are minimised. The landfill security requirements will ensure these risks are minimised.
 - 11) **Condition 1.3.10:** The Premises landfill area will be managed to ensure the risks associated with illegal access, unauthorised waste disposal are minimised and that incident reporting for events such as fires can be undertaken in a timely manner. The landfill signage requirements will ensure the risks are minimised.
 - 12) **Condition 1.3.11:** The Premises will be managed to ensure the risk of windblown waste is minimised however, there is the likelihood that windblown waste will still eventuate, consequently periodic checks will be required to control windblown waste occurrence.
 - 13) **Condition 1.3.12:** The Premises will need to be managed to ensure the risks associated with harbouring pests and vermin are minimised. Premises operation conditions will help to ensure this however, the risk remains and additional management measure may need to be taken by the Licensee to control pests and vermin at the Premises.
 - 14) **Condition 1.3.13:** The Premises asbestos management practices need to meet the requirements of the Asbestos Management Plan which is to be completed to support the licence application for the premises.
 - 15) **Condition 1.3.14:** The works approval W5663/2014/1 approves the construction of the new landfill and solid waste depot as defined in the application document. The works approval includes establishment of landfill cells one through six. The landfill cells have a potential life span of well over fifty years. Subsequently the construction and commissioning of landfill cells 3, 4, 5 and 6 will be managed under the licence. The Construction Quality Assurance Plan, developed under condition 4.1.1 and 4.1.2 of works approval W5663/2014/1, sets out to ensure each new landfill cell and associated leachate management infrastructure is installed to the appropriate standards. Following the commissioning of each new additional landfill cell a Construction Quality Assurance Validation Report (CQAVR) is required to be submitted under condition 5.3.2 within the licence. To ensure continuity in the works and quality verification



process new cells will be constructed and commissioned in accordance with the application document and CQAVR requirements.

Residual Risk

- 1) **Scope:** This residual risk assessment is for the abnormal operational conditions and emergency situations only. Normal operating conditions are assessed at low risk. The regulatory controls do not reduce the consequence of a possible emission; the regulatory controls should reduce the likelihood as no emissions not detailed within section 2 'emissions general' should occur from the Premises. Additional conditions are proposed in section 4.1 of the licence to ensure the appropriate management systems are in place.
- 2) **Risk assessment finding:**
Consequence: Moderate (*Major for asbestos inhalation*)
Likelihood: Rare
Risk Rating: Moderate



Appendix B

IMPROVEMENT PROGRAM

The relevant assessment sections for abnormal operational conditions and emergency situations with regards to the emission description and risk assessment are detailed above under the General Conditions section of Appendix A. Risk of emission to the environment during operation is highest if the landfill liner and leachate collection system are not constructed to the design standard and should asbestos containing material not be managed appropriately. To ensure that normal operation conditions are maintained at the Premises the following regulatory controls are proposed to ensure suitable management systems are implemented.

Regulatory Controls:

1) **Improvement reference IR1:**

To ensure the landfill liner and leachate collection system is installed following an appropriate Construction Quality Assurance Plan (CQAP). The basis for a CQAP is set out within the section 6.4 of the BPEM guidelines (EPA Victoria 2010). The date of completion of the CQAP is based on the requirement to have a CQAP prepared prior to the start of construction;

Appendix 2: Key documents

| | Document title | In text ref | Availability |
|----|--|--------------|--|
| 1. | Works Approval W5663/2014/1 – Ravensthorpe Waste Disposal Site | W5663/2014/1 | DWER records (A803268) |
| 2. | Amended Registration R1667/2004/1 –Ravensthorpe Waste Disposal Site | R1667/2004/1 | DWER records (A594368) |
| 3. | DER, July 2015. <i>Guidance Statement: Regulatory principles.</i> Department of Environment Regulation, Perth. | DER 2015a | accessed at www.dwer.wa.gov.au |
| 4. | DER, October 2015. <i>Guidance Statement: Setting conditions.</i> Department of Environment Regulation, Perth. | DER 2015b | |
| 5. | DER, August 2016. <i>Guidance Statement: Licence duration.</i> Department of Environment Regulation, Perth. | DER 2016a | |
| 6. | DER, November 2016. <i>Guidance Statement: Risk Assessments.</i> Department of Environment Regulation, Perth. | DER 2016b | |
| 7. | DER, November 2016. <i>Guidance Statement: Decision Making.</i> Department of Environment Regulation, Perth. | DER 2016c | |

Attachment 1: Issued Licence L8839/2014/1
