

Our Reference: 1249070055-46322

Consent No. RM23.185.03

## **WATER PERMIT**

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Dunedin City Council

Address: 50 The Octagon, Dunedin

To divert surface water and stormwater from working and non-working areas of the landfill, including from a defence against water, for the purpose of the operation and closure of the Green Island Landfill.

For a term expiring 14 May 2031

Location of consent activity: Green Island Landfill, located at 9, 114, 140, and 170 Brighton Road, Dunedin

Legal description of consent location: Refer Attachment C

Map Reference of approximate site midpoint (NZTM2000): E1399304 N4912786

### **Conditions**

#### **General**

1. Under section 125 of the Resource Management Act 1991, this consent lapses five years after the date of commencement of the consent unless:
  - a) The consent is given effect to; or
  - b) The Otago Regional Council extends the period after which the consent lapses.
2. This consent is also subject to the General Conditions in Schedule 1 – General Conditions and Attachments A-C to that Schedule. In the event of differences or conflict between the General Conditions and the conditions of this consent, the conditions of this consent prevail.

#### **Diversion Infrastructure**

3. Remedial works to repair the culvert shown on drawing 12547621-C402 that links the southeastern and eastern constructed wetlands must be implemented as a priority and physical remedial works must commence no later than 30 June 2025.
4. In the event that ongoing monitoring in accordance with General Condition 41 detects seepage of leachate into the culvert between the southeastern constructed wetlands to the eastern constructed wetlands shown on drawing 12547621-C402 following the completion of repair

works, remedial measures must be designed and implemented to prevent the seepage of leachate within 3 years of the commencement of this consent.

5. The existing leachate surface drain along the southern side of the landfill must be relocated downslope of the extension to the leachate collection trench to collect stormwater runoff as shown on drawing 12547621-C402 within 3 years of the commencement of this resource consent.
6. The construction and repair works under Conditions 4 and 5 must:
  - a) Be managed to ensure effects on slope stability and generation of odour and dust are minimised.
  - b) Implement an accidental discovery protocol to manage effects on any undiscovered archaeological sites.
  - c) Ensure any waste or soil material that is removed is transferred and disposed of in the active landfilling area.
  - d) Ensure that any discharges of sediment to surface water associated with repair of the culvert between the south eastern and eastern constructed wetlands are minimised.
  - e) Ensure that any dewatering water from excavations associated with the relocation of the existing surface drain is directed to the leachate collection trench for disposal.
7. Any stormwater discharges, air discharges, and disturbance of contaminated land associated with the construction works under Conditions 4 and 5 must comply with the conditions of resource consents RM23.185.05, 06, and 08.
8. Any new temporary stormwater perimeter drains, channels and culverts intended to be used for less than 5 years must be designed to manage at least a 10% AEP (Annual Exceedance Probability) storm event. The stormwater infrastructure must be designed such that if this capacity is exceeded the preferential (secondary) flow path is, as far as practicable, away from the landfill.
9. Any new permanent stormwater perimeter drains, channels and culverts that will be in service for greater than 5 years must be designed and constructed to manage a 1% AEP (Annual Exceedance Probability) storm event and must be designed such that if this capacity is exceeded the preferential (secondary) flow path is, as far as practicable, away from the landfill.
10. All temporary and permanent stormwater drains, channels, and culverts must be maintained to enable ongoing operation at all times and restored as soon as practicable in the event of damage or faults.

Issued at Dunedin this 14<sup>th</sup> day of May 2025



Alexandra King  
**Manger Consents**

## Schedule 1 – General Conditions Relevant to All Consents

1. The operation, closure and aftercare of the landfill (including all associated discharges of contaminants to land, water and air) must be undertaken in general accordance with the following documents, except where modified by other conditions of this consent. In the event of differences or conflict between the contents of the documents and the conditions, the conditions prevail:
  - a) Green Island Landfill Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023 (Updated October 2024), including attached Appendices 1 – 19.
  - b) Waste Futures – Green Island Landfill Closure, Design Report, GHD, September 2023 and associated design drawings listed on drawing sheet 12547621506381-G001.
  - c) Green Island Landfill, Development and Management Plan, Stantec, September 2023, except as updated in accordance with General Conditions 6 - 9.
2. An alternative design or methodology to that proposed in the consent documents specified in General Condition 1 may be used if:
  - a) The adverse effects of the activity are demonstrated by the Consent Holder to be the same or less than the consented design or methodology; and
  - b) The alternative design or methodology has been provided under General Condition 17 to the Otago Regional Council and written certification is obtained from the Otago Regional Council; or
  - c) The alternative design or methodology has been incorporated into the Landfill Development Management Plan required under General Condition 6 or Landfill Closure Management Plan under General Condition 10 and provided to the Otago Regional Council and written certification is obtained from the Otago Regional Council.
3. These resource consents and a copy of the Otago Regional Council certified version of any management plan and design details required by these consents must be kept on site at all times, and the Consent Holder must ensure all relevant personnel are made aware of each document's contents.

### Certification Process

4. Subject to Condition 5, the following management plans must be prepared by the Consent Holder and submitted to Otago Regional Council for written certification by as required by these consents:
  - Landfill Development Management Plan – General Conditions 6 - 9.
  - Landfill Closure Management Plan – General Conditions 10 – 14.
  - Adaptive Management Plan – General Conditions 51 – 53.
  - Vegetation Management and Restoration Plan - RM23.185.01, Conditions 43 – 45.

**Advice Note:** *The written certification process is confined to confirming that the management plans adequately give effect to the relevant condition(s).*

5. The Consent Holder must follow the process set out below for any plans, documents, designs or specifications (hereafter referred to as 'documents') requiring written certification from the Otago Regional Council:

- a) Documents requiring written certification must be submitted to the Otago Regional Council in electronic and hard copy form.
- b) Subject to (c) and (e) below, works to which the documents relate must not commence until the Consent Holder has received written certification from the Otago Regional Council.
- c) If the Consent Holder has not received a response from the Otago Regional Council within 20 working days of the date of submission under (a) above, or 40 working days in the case of the design of the extended leachate trench required by General Conditions 17(b) and 18, the documents must be deemed to be certified.

**Advice Note:** *If the Otago Regional Council's response is that they are not able to certify the documents the Council is expected to provide the Consent Holder with reasons and recommendations for changes to the documents in writing.*

- d) The Consent Holder must consider the Council's reasons and recommendations and resubmit amended documents for written certification .
- e) If the Consent Holder has not received a response from the Otago Regional Council within 10 working days of the date of resubmission under (d) above, the documents must be deemed to be certified.
- f) If the Otago Regional Council's response is that they are still not able to certify the resubmitted documents then the Consent Holder must nevertheless implement the resubmitted documents with a notation that written certification of them has not occurred.
- g) Condition 5(f) does not apply to the detailed design of the extended section of leachate trench required by Condition 5 of Discharge Permit RM23.185.01. Written certification of the detailed design of the extended section of leachate trench must be obtained prior to its construction.
- h) Certified documents may be amended at the request of the Consent Holder at any time subject to written recertification undertaken in accordance with Conditions 5(a) to (f) with references in those clauses to certification to be read as recertification.

### **Landfill Development Management Plan**

- 6. The operation of the landfill and waste diversion and transfer facilities must be undertaken in accordance with a Landfill Development Management Plan (LDMP), with the overall objective of setting out details of the practices and procedures to be adopted to achieve compliance with the conditions of these resource consents.
- 7. The Landfill Development Management Plan must be prepared by a suitably qualified and experienced person and must address how the following matters will meet any requirements, limits, or restrictions set out in the conditions of these resource consents:
  - a) The LDMP must, to the extent practicable, be in accordance with best industry practice.
  - b) The stages and order of landfill development, including matters to be completed prior to each stage.
  - c) Landfill gas, leachate, groundwater and stormwater management.
  - d) Erosion and sediment controls during construction and operation.
  - e) Types of waste to be accepted and those that are prohibited.
  - f) Waste acceptance control and monitoring the types of waste accepted.

- g) Methods of placing and covering waste, including highly odorous and special waste.
  - h) Management of the active landfill area and waste diversion and transfer facilities.
  - i) Fire preparedness and response management.
  - j) Odour and dust management.
  - k) Noise management.
  - l) Litter management.
  - m) Plant and animal pest management, including bird control.
  - n) Monitoring procedures, including locations, parameters, and frequency.
  - o) Landfill inspections and maintenance.
  - p) Emergency management and contingency response procedures.
  - q) Complaints response procedures.
  - r) Record-keeping and reporting requirements.
  - s) Final landfill capping, post settlement height, shape and contours of the land.
8. Within 6 months of the commencement of these resource consents the Landfill Development Management Plan that was current in April 2025 must be updated in consultation with Te Rūnanga o Ōtākou to achieve the conditions of these resource consents and be provided to the Otago Regional Council for written certification in accordance with General Condition 5.
9. By 1 July each year the Consent Holder must, in consultation with Te Rūnanga o Ōtākou, complete a review of the certified Landfill Development Management Plan to ensure that the management practices contained within it remain adequate to ensure compliance with the conditions of these consents. If amendments are made to the Landfill Development Management Plan, the amended Plan must be submitted to the Otago Regional Council for written recertification in accordance with General Condition 5.

### **Landfill Closure Management Plan**

10. The closure and aftercare of the landfill must be undertaken in accordance with a Landfill Closure Management Plan (LCMP).
11. The Landfill Closure Management Plan must be prepared by a suitably qualified and experienced person and in consultation with Te Rūnanga o Ōtākou, with an overall objective of setting out details of the practices and procedures to be adopted to achieve compliance with the conditions of these resource consents.
12. The Landfill Closure Management Plan must address how the following matters will meet any requirements, limits, or restrictions set out in the conditions of these resource consents:
- a) The LDMP must, to the extent practicable, be in accordance with best industry practice.
  - b) Long term use of the landfill site including the incorporation of mana whenua values and pūrākau associated with the Kaikorai Estuary.
  - c) Post closure landfill gas, leachate, groundwater and stormwater management.
  - d) Post closure maintenance of the landfill cap.
  - e) Post closure monitoring procedures, including locations, parameters, and frequency.
  - f) Any ongoing requirements of the VMRP required by Condition 43 of RM23.185.01.
  - g) Landfill inspections and maintenance.

- h) Emergency management and contingency response procedures.
  - i) Complaints response procedures.
  - j) Record-keeping and reporting requirements.
13. The Landfill Closure Management Plan must be submitted to the Otago Regional Council at least 3 months prior to the final acceptance of waste at the landfill for written certification in accordance with General Condition 5.
14. Every three years following the final acceptance of waste at the landfill, the Consent Holder must, in consultation with Te Rūnanga o Ōtākou, complete a review of the certified Landfill Closure Management Plan to ensure that the management practices contained within them remain adequate to ensure compliance with the conditions of these consents. If amendments are made to a management plan, the amended plan must be submitted to the Otago Regional Council for written recertification in accordance with General Condition 5.

### **Management Plan Amendment**

15. The Consent Holder may make amendments to the certified Landfill Development Management Plan or Landfill Closure Management at any time. Any amendments must be made in consultation with Te Rūnanga o Ōtākou and submitted to the Otago Regional Council for written recertification in accordance with General Condition 5.

### **Design and Construction**

16. All investigations, detailed design and supervision of construction of the landfill must be undertaken by suitably qualified personnel experienced in such works, or works of a similar nature.
17. Within 20 working days prior to commencing the construction of any:
- a) Landfill perimeter bund;
  - b) Leachate collection system, including the extension to the leachate collection trench;
  - c) Flood resilience improvements;
  - d) Permanent landfill gas treatment system;
  - e) Stormwater treatment and discharge system;
  - f) Defence against water along the Kaikorai Stream; or
  - g) Final capping.

The Consent Holder must submit a design report with specifications and design drawings to the Otago Regional Council for written certification in accordance with General Condition 5.

18. The pipe contained within the extension to the leachate collection trench must be designed to be resilient to deformations under a ULS seismic event.
19. When completed, the works specified in General Condition 17 must be confirmed by a suitably experienced Chartered Professional Engineer (CPEng) that they have been completed in accordance with the design certified by the Otago Regional Council. A Construction Quality

Assurance (CQA) report must be prepared and submitted by the Consent Holder to the Otago Regional Council within 3 months following completion of the works specified in General Condition 17.

### Landfill Operation

20. The Consent Holder must appoint and retain an appropriately qualified and experienced person to supervise the operation of the landfill.
21. The active landfilling area must not exceed 900 m<sup>2</sup> at any time, except that it may be expanded to 1200 m<sup>2</sup>:
  - a) During the times of the day where the rate of waste truck arrivals is 25% more than average;
  - b) During waste placement in areas with unusual constraints including shaping to form an extreme corner of the waste pile; or
  - c) Where landfill gas escape from underneath the day's refuse, and odour from the day's refuse are unlikely.
22. The active landfilling area must not exceed 300 m<sup>2</sup> at any time when the daily fire danger rating for the landfill site is very high, extreme, or very extreme for forestry as reported by the New Zealand Fire Weather System.

**Advice Note:** *The New Zealand Fire Weather System (FWS) is operated by the National Institute of Water and Atmospheric Research (NIWA) on behalf of Fire and Emergency New Zealand (FENZ) to monitoring fire danger.*

23. The active landfilling area must be limited to no more than 30 m wide.
24. Except where required by General Condition 25, all waste must be covered at the end of each working day with non-combustible compacted soil cover to a minimum depth of 150 millimetres.
25. All special waste, highly odorous waste, and medical waste must be covered no more than 30 minutes following its placement with non-combustible compacted soil cover to a minimum depth of 150 millimetres.

**Advice Notes:**

*The discharge of highly odorous waste is restricted by Condition 32 of Discharge Waste and Leachate to Land Permit RM23.185.01*

*Discharge to Air Permit RM23.185.06 Condition 6 imposes additional requirements for the discharge of highly odorous wastes.*

26. There must be no waste that remains uncovered overnight.
27. Daily cover must be removed before waste placement at the start of each day. As a minimum, windows must be cut through the previous layer of daily cover sufficient to allow the free flow of leachate from the new waste layer to the underlying layers.



28. All areas where further waste will not be placed for three months or more must be covered with non-combustible compacted intermediate soil cover to a minimum depth of 300 millimetres. Grass or vegetative cover must be established on the intermediate soil cover, except within 10 m of the active landfilling area.
29. Final capping of the landfill must be undertaken in a progressive manner. The Consent Holder must complete final capping of each landfilling stage as soon as practicable but no later than 2 years following final receipt of waste in that area. Final capping of the landfill must be fully completed no later than two years following the final acceptance of waste at the landfill. The final cap profile in all areas must comply with General Conditions 30 and 31.
30. The final capping layer must comprise the following minimum layers, from top to bottom;
  - a) 350 millimetres of sub-soil and topsoil that is grassed, except that grassing is not required within 10 m of the active landfilling area; and
  - b) 600 millimetres of low permeability clay with a permeability coefficient of not more than  $1 \times 10^{-7}$  metres per second; and
  - c) 200 millimetres soil cover (i.e. compacted intermediate cover soils); and
  - d) 300 millimetres of compacted intermediate cover soils.
31. The final cap must:
  - a) as far as practicable, have a gradient of 4% or greater, based on the final received waste tonnages; and
  - b) be graded and incorporate drainage so as to prevent ponding of stormwater and erosion and cracking of the capping surface.
32. A walkover visual inspection of the landfill operational area must be undertaken at least monthly and immediately following storm events greater than 50% Annual Exceedance Probability (AEP), to check for:
  - a) Vegetation die off;
  - b) Cracking of the final cap surface;
  - c) Subsidence or erosion;
  - d) Landfill gas leaks or odour;
  - e) Leachate break out through the cap;
  - f) Waste protruding through the cap; or
  - g) Stormwater system overflows or damage.Any identified incidences of defects (a) to (g) must be remedied by the Consent Holder as soon as practicable. A report on the inspection and details of any remedial actions must be forwarded to the Otago Regional Council within one month of each inspection.

## Monitoring

33. An automatic weather station that continuously and accurately records wind speed and direction, temperature, relative humidity, and rainfall must be operated, and maintained on the site. The weather station must be serviced and calibrated by a suitably qualified and experienced

technician at least annually to ensure accurate monitoring. Data recorded by the weather station must be provided to the Otago Regional Council in electronic format upon request.

### Groundwater and Surface Water Monitoring

34. The Consent Holder must install a new monitoring well cluster of 3 wells at the location shown in Attachment A. The wells must be screened in different geological layers, comprising the Upper Kaikorai Estuary Formation (UKEM), Lower Kaikorai Estuary Formation (LKEM), and Abbotsford Mudstone.

35. The Consent Holder must:

- a) lodge a resource consent application to drill the new groundwater monitoring wells specified in General Condition 34 within 3 months of the commencement of these consents, if this is required to comply with the Resource Management (National Environmental Standards for Freshwater Management) 2020, or any other relevant standard or rule;
- b) construct the new wells within 3 months of any consent required under part (a) of this Condition commencing, or within 3 months the commencement of these consents if no resource consent is required under part (a) of this Condition; and
- c) commence groundwater monitoring from the new wells in the next monitoring cycle required under General Condition 39 following the completion of well construction.

**Advice Note:** General Condition 35 has been agreed by the Applicant and offered on an 'Augier' basis.

36. All groundwater monitoring wells must be maintained to prevent the ingress of surface water and to enable accurate monitoring of groundwater levels and groundwater quality.

37. In the event of a well being destroyed or becoming unsuitable for monitoring, the Consent Holder must replace it with a well in the same general location within 3 months of the well being destroyed or becoming unsuitable. The Consent Holder must:

- a) lodge a resource consent application to drill the replacement groundwater monitoring well within 3 months of the well being destroyed or becoming unsuitable, if this is required to comply with any relevant standard or rule;
- b) Construct the replacement well within 3 months of the commencement of any consent required under part (a) of this Condition, or within 3 months of the well being destroyed or becoming unsuitable if no resource consent is required under part (a) of this Condition; and
- c) Commence groundwater monitoring from the replacement well in the next monitoring cycle required under Condition 39 following the completion of well construction

38. The Consent Holder must undertake the leachate monitoring set out in Table 1.

Table 1: Leachate Monitoring		
Frequency	Location as shown in Attachment A	Parameter
Monthly	Leachate collection system pumpstations and manholes	Water Levels

<b>Table 1: Leachate Monitoring</b>		
<b>Frequency</b>	<b>Location as shown in Attachment A</b>	<b>Parameter</b>
Quarterly (reducing to 6 monthly, two years post closure)	Representative sample of leachate collected from PS3 sampling point.	pH (pH units)
		Electrical conductivity (mS/cm)
		Dissolved oxygen (mg/L)
		Dissolved Boron
		Ammoniacal nitrogen
		Nitrate nitrogen
		Chloride
		PFOS (first three years)
		PFOA (first three years)
		Dissolved Aluminium
		Dissolved Arsenic
		Dissolved Cadmium
		Dissolved Chromium
		Dissolved Copper
		Dissolved Iron
		Dissolved Lead
		Dissolved Manganese
		Dissolved Nickel
		Dissolved Zinc
Annually	Representative sample of leachate collected from PS3 sampling point	Sodium
		Potassium
		Calcium
		Cyanide
		Magnesium
		Bicarbonate
		Sulphate
		Dissolved reactive phosphorous
		Volatile organic compounds (VOC)
		Semi volatile organic compounds (SVOC)
		BOD
		COD

39. The Consent Holder must undertake the groundwater monitoring set out in Table 2. Where trigger levels are required, they are to be established in accordance with General Condition 43.

<b>Table 2: Groundwater Monitoring</b>			
<b>Frequency</b>	<b>Location as shown in Attachment A</b>	<b>Parameter</b>	<b>Trigger level required</b>
Monthly	Line 1-8 A/B/C/D wells	Groundwater Levels	
	BH103 New well cluster		
		pH (pH units)	

<b>Table 2: Groundwater Monitoring</b>			
<b>Frequency</b>	<b>Location as shown in Attachment A</b>	<b>Parameter</b>	<b>Trigger level required</b>
Quarterly (reducing to 6 monthly, two years post closure)	Line 1-8 A/B/C/D wells BH103 New well cluster	Electrical conductivity (mS/cm)	
		Dissolved oxygen (mg/L)	
		Dissolved Boron	Yes
		Ammoniacal nitrogen	Yes
		Nitrate nitrogen	Yes
		Chloride	
		Dissolved Aluminium	Yes
		Dissolved Arsenic	Yes
		Dissolved Cadmium	Yes
		Dissolved Chromium	Yes
		Dissolved Copper	Yes
		Dissolved Iron	
		Dissolved Lead	Yes
		Dissolved Manganese	Yes
		Dissolved Nickel	Yes
		Dissolved Zinc	Yes
		PFOS (first three years)	Yes
		PFOA (first three years)	Yes
Annually	Line 1-8 A/B/C/D wells BH103 New well cluster	Sodium	
		Potassium	
		Calcium	
		Cyanide	Yes
		Magnesium	
		Bicarbonate	
		Sulphate	
		Dissolved reactive phosphorous	Yes
		Volatile organic compounds (VOC)	Yes
		Semi volatile organic compounds (SVOC)	Yes

40. The Consent Holder must undertake the surface water monitoring set out outlined in Table 3 below. Where trigger levels are required, they are to be established in accordance with General Condition 43.

<b>Table 3: Surface Water Monitoring</b>			
<b>Monitoring Frequency</b>	<b>Location as shown in Attachment A</b>	<b>Parameter</b>	<b>Trigger level required</b>
3 hourly (using automatic water level pressure transducer)	GI3	Kaikorai Stream levels	
Quarterly (reduced to 6 monthly, two	Surface water locations GI 1, GI 2,	pH (pH units)	Yes
		Temperature	

<b>Table 3: Surface Water Monitoring</b>			
<b>Monitoring Frequency</b>	<b>Location as shown in Attachment A</b>	<b>Parameter</b>	<b>Trigger level required</b>
years following landfill closure)	GI 3, GI 5 and estuary at Brighton Road bridge within three hours of low tide	Electrical conductivity (mS/cm)	
		Dissolved oxygen	Yes
		Ammoniacal nitrogen	Yes
		Nitrate nitrogen	Yes
		Boron	Yes
		Chloride	
		Aluminum	Yes
		Arsenic	Yes
		Cadmium	Yes
		Chromium	Yes
		Copper	Yes
		Iron	
		Lead	Yes
		Manganese	Yes
		Nickel	Yes
		Zinc	Yes
		Total suspended solids	Yes
		<i>E. coli</i>	Yes
		<i>Enterococci</i>	Yes
		PFOS (first three years)	Yes
		PFOA (first three years)	Yes
Annual	Surface water locations GI 1, GI 2, GI 3, GI 5 and estuary at Brighton Road bridge within three hours of low tide at low tide	Sodium	
		Potassium	
		Calcium	
		Cyanide	Yes
		Bicarbonate	
		Sulphate	
		Dissolved reactive phosphorus	Yes
		Volatile organic compounds (VOC)	Yes
		Semi volatile organic compounds (SVOC)	Yes

41. The Consent Holder must undertake the sediment pond water monitoring set out in Table 4. Where trigger levels are required, they are to be established in accordance with General Condition 43.

<b>Table 4: Sediment Pond Monitoring</b>			
<b>Monitoring Frequency</b>	<b>Location as shown in Attachment A</b>	<b>Parameter</b>	<b>Trigger level required</b>
Quarterly (reduced to 6 monthly, two years following landfill closure)	Western sedimentation pond	pH (pH units)	Yes
		Temperature	
	South western pond	Electrical conductivity (mS/cm)	
		Dissolved oxygen	

<b>Table 4: Sediment Pond Monitoring</b>			
<b>Monitoring Frequency</b>	<b>Location as shown in Attachment A</b>	<b>Parameter</b>	<b>Trigger level required</b>
	Eastern sedimentation pond	Ammoniacal nitrogen	
		Nitrate nitrogen	
	South eastern constructed wetland	Boron	Yes
		Chloride	
		Aluminum	Yes
		Arsenic	Yes
	Eastern constructed wetland	Cadmium	Yes
		Chromium	Yes
		Copper	Yes
	After closure, the northern sedimentation pond.	Lead	Yes
		Nickel	Yes
		Zinc	Yes
		Total suspended solids	
		<i>E. coli</i>	
		<i>Enterococci</i>	
		PFOS (first three years)	Yes
		PFOA (first three years)	Yes
Annual	Western sedimentation pond	Dissolved reactive phosphorus	
		Volatile organic compounds (VOC)	
	South western pond	Semi volatile organic compounds (SVOC)	
	Eastern sedimentation pond		
	South eastern constructed wetland		
	Eastern constructed wetland		
	After closure, the Northern sedimentation pond.		

42. All leachate, groundwater, surface water, and sediment pond water sampling required under General Conditions 38 to 41 must meet the following requirements:

- Monitoring must be undertaken at the locations specified in Tables 1 to 4;
- Monitoring of the sediment ponds specified in Table 4 must include a record of whether or not the ponds are discharging freely to the downstream environment;
- Sampling must be undertaken, or overseen by, a suitably qualified professional and collected in accordance with the relevant National Environmental Monitoring Standard (NEMS);
- National Environmental Monitoring Standards Water Quality Part 1 of 4: Sampling, Measuring, Processing and Archiving of Discrete Groundwater Quality Data;

- e) National Environmental Monitoring Standards Water Quality Part 2 of 4: Sampling, Measuring,
  - f) All sample analysis must be performed by a laboratory that has International Accreditation New Zealand (“IANZ”) accreditation or otherwise as agreed in writing with the Otago Regional Council.
43. Trigger levels for the indicated parameters in Tables 2 to 4 must be set at the lesser of:
- a) The mean plus three standard deviations for parameter concentrations measured during the previous 5 years of monitoring except:
    - i. For pH mean plus and minus three standard deviations;
    - ii. For PFOS and PFOA annual mean plus three standard deviations;
 or
  - b) Any trigger value specified in Table 5 for the indicated parameter.

<b>Table 5: Trigger Values</b>	
<b>Parameter</b>	<b>Trigger Value (µg/L – unless stated otherwise)</b>
pH (pH units)	7.2-8.0 (pH units)
Dissolved oxygen (mg/L)	11-day minimum: 4.0 mg/L 7-day mean minimum: 5.0 mg/L
Ammoniacal nitrogen	1700
Nitrate nitrogen	2400
Aluminium	150
Arsenic	140
Boron	2500
Cyanide	14
Cadmium	0.8
Chromium	40
Copper	2.5
Lead	9.4
Manganese	3600
Nickel	17
Zinc	21
<i>E. coli</i>	540 MPN/100 mL
<i>Enterococci</i>	280 MPN/100 mL
PFOS	0.13
PFOA	220

44. The water quality trigger levels for groundwater, surface water, and sediment pond water quality for the indicated parameters in Tables 2 to 4 must be:
- a) Recorded in the Landfill Development Management Plan and Landfill Closure Management Plan; and
  - b) Updated (with respect trigger levels determined under General Condition 43(a)) annually in the Landfill Development Management Plan and three yearly in the Landfill Closure

Management Plan in accordance with the respective review periods for those Plans specified in General Conditions 9 and 14.

45. The Consent Holder must assess the monitoring results for the parameters listed in Table 2 to 4 against the trigger levels set General Condition 43 and updated under General Condition 44. The assessment must include a trend analysis and a determination of the statistical significance of any trends and be included in the Annual Report required by General Condition 59.
46. The Consent Holder must compile the results of all monitoring and assessments required under General Conditions 38 to 43 (including any leachate, groundwater and surface water physiochemical monitoring, groundwater and surface water level monitoring, alerts from the leachate pumping system and monthly records of total leachate volumes pumped from the collection trench), into tables in a digital format (excel spreadsheet file or comma separated value file). One table must be compiled for each site where monitoring is undertaken.
47. The Consent Holder must provide the results of all monitoring and assessments to the Otago Regional Council:
  - a) Within 1 week of receiving laboratory results where the trigger levels in set under General Conditions 43 or 44 are exceeded, except where the exceedance is at surface water monitoring sites GI1 and GI2 (which are upstream of the landfill);
  - b) Within 1 week of receiving laboratory results where any historical maximum contaminant (the Table 2 to 4 parameters) recorded for the site is exceeded; or
  - c) Otherwise on request; and
  - d) As part of the Annual Report required by General Condition 59.

### **Contingency Actions and Adaptive Management**

48. In the event that the monitored contaminant concentrations exceed the trigger levels at surface water sites GI3 and GI5, and the contaminant concentrations at those sites also exceed the concentrations detected at surface water sites GI1 and GI2 upstream of the landfill, the Consent Holder must undertake two additional rounds of surface water sampling at all surface water sites, firstly no later than 1 week and secondly no later than 2 weeks after receiving the results of the initial exceedance and provide the combined results of the additional sampling to Otago Regional Council within 1 week of receiving the laboratory results.
49. If following completion of the additional two monitoring rounds required by General Condition 48 contaminant concentrations continue to exceed the trigger levels at surface water sites GI3 and GI5, and the concentrations continue to be elevated in comparison to the concentrations detected at surface water sites GI1 and GI2 upstream of the landfill, the Consent Holder must undertake an investigation into potential causes of the exceedances and prepare a report which must be provided to Otago Regional Council and Te Rūnanga o Ōtākou no later than 1 month following receipt of the laboratory results of the additional sampling required under General Condition 48. The report must outline likely causes of exceedances, statistical analysis of water quality, actions to be taken to prevent further exceedances and proposed follow up monitoring where necessary.



50. Should the groundwater level monitoring required under General Condition 39 identify outward gradients (where water levels are higher in the trench than in the monitoring wells adjacent), or a risk be identified that the gradient into the leachate collection trench may not be maintained, the Consent Holder must notify the Otago Regional Council within one working day.
51. Should the results of any monitoring required under General Conditions 38 to 41 indicate adverse effects on water quality directly attributable to landfill leachate from the Green Island Landfill entering the Kaikorai Stream, the Consent Holder must within 3 months prepare an Adaptive Management Plan. That Plan must include at least the following information:
- a) Additional investigations and groundwater and surface water monitoring designed to confirm where leachate migration is occurring, including timeframes for completing the investigations and monitoring;
  - b) Ecotoxicology investigations to establish the chemical characterisation of the leachate and test the toxicity of any leachate contaminants present in the receiving environment on aquatic fauna;
  - c) Further targeted ecological investigations, if the ecotoxicology investigations find leachate contaminants are a risk to aquatic fauna;
  - d) Proposed measures to be implemented to avoid or mitigate effects of leachate migration, including timeframes for the completion of the proposed measures which may include, but are not limited to:
    - i. Physical barriers including sheet piling, slurry or bentonite walls, or secant piles;
    - ii. Targeted groundwater and leachate abstraction using pumped wells; or
    - iii. An additional deep monitoring well on groundwater monitoring Line 3;
  - e) Follow up monitoring to confirm the effectiveness of the implemented measures;
  - f) Contingency actions in the event the implemented measures are not effective in avoiding or mitigating the effects of leachate migration; and
  - g) A review process that includes Te Rūnanga o Ōtākou and Otago Regional Council.
52. The Adaptive Management Plan must be submitted to the Otago Regional Council for written certification in accordance with General Condition 5.

### **Ongoing Monitoring**

53. The certified Adaptive Management Plan must be implemented in accordance with the timeframes specified in the Plan.
54. The Landfill Development Management Plan and Landfill Closure Management Plan must specify practices and procedures for the monitoring of groundwater and surface water for the duration of these consents, including as a minimum:
- a) Groundwater and surface water monitoring locations, parameters, trigger levels, frequencies and monitoring methodologies for each monitoring location and monitoring parameter, including as a minimum the requirements set out in General Conditions 38 to 45 and Tables 1 to 4; and
  - b) Record keeping and reporting requirements.

## **Human Health and Environmental Risk Assessment**

55. The Consent Holder must commence a review of the interim Human Health and Environmental Risk Assessment, prepared by GHD and dated 20 May 2024, within 3 years of the commencement of these consents. The review must be based on the collection of three years of groundwater and surface water monitoring data in accordance with General Conditions 38 to 45, including for PFAS and PFOA. An updated Human Health and Environmental Risk Assessment based on that review must be provided to Otago Regional Council within 6 months of the commencement of the review.

## **Complaints**

56. The Consent Holder must provide contact details on the Dunedin City Council website that enable members of the public to contact the landfill operator at all times, including in case of emergency.
57. A complaint management, investigation and reporting system must be maintained by the Consent Holder during construction, operation, closure and aftercare of the landfill to record the receipt and management of all complaints, including those regarding odour or dust. The following details must be recorded:
- a) Type, date, and time of complaint;
  - b) Name and address of complainant (if available);
  - c) Location from which the complaint arose;
  - d) Wind direction at the time of complaint (if relevant);
  - e) The likely cause of the complaint;
  - f) The action taken as a result of the complaint; and
  - g) The response to the complainant.
58. The Consent Holder must notify Otago Regional Council of any complaints received as soon as practicable and within one working day of the complaint being received. All complaints must be investigated, and a response provided to the complainant. The results of investigations, actions, and responses to complainants must be provided to the Otago Regional Council within 10 working days of the complaint being received. The complaints record must be made available to the Otago Regional Council on request, and must be provided in summary form yearly in the Annual Report required by General Condition 59.

## **Annual Monitoring Report**

59. The Consent Holder must compile an annual monitoring report on the operation of the landfill, including:
- a) The status of landfill construction, completion of landfilling of any stage, and closure and aftercare activities completed during the preceding year;
  - b) The details of any upgrades to the landfill gas and leachate management systems undertaken in the previous year;
  - c) Any non-compliance with the conditions of these consents or difficulties in achieving the practices and procedures in the Landfill Development Management Plan or Landfill Closure

Management Plan which have arisen in the preceding year and the measures taken to address them;

- d) Any emergency management procedures and contingency response procedures specified in the Landfill Development Management Plan or Landfill Closure Management Plan that were implemented during the preceding year;
- e) Landfilling operations and closure and aftercare activities proposed for the next year of the landfill operation; and
- f) Collated summaries and analyses of all monitoring results and other data required under these consents, including:
  - i. The results obtained for all leachate, groundwater, surface water and leachate pumping system monitoring undertaken. Results must be supplied in table format within the report, with a copy of all laboratory analytical reports appended.
  - ii. A description of the dates of monitoring and climatic conditions on those dates, and any other pertinent field observations.
  - iii. Complaint data, including but not limited to odour and dust, and related investigations and responses.
  - iv. Results of landfill surface methane monitoring and thermal imaging surveys and any remedial actions arising.
  - v. The results of odour monitoring, including all field monitoring record sheets.
  - vi. Interpretation of all the data, particularly with regard to landfill performance. Trends must be identified and discussed.
  - vii. Results and monitoring records relating to the thermal monitoring of the active tip face.
- g) A report, prepared at the completion of each planting season, that:
  - i. confirms all areas planted that year;
  - ii. confirms that all plantings have been completed in accordance with the certified VMRP required by Condition 43 of Discharge Permit RM23.185.01;
  - iii. confirms the status of plant maintenance, including survival and canopy closure from prior planting seasons; and
  - iv. includes supporting photographic evidence for points (i)-(iii).

The report must be forwarded to Te Rūnanga o Ōtākou and Otago Regional Council by 1 October each year unless an alternative date is agreed in writing with the Otago Regional Council. The Consent Holder must make the report publicly available on the Dunedin City Council website.

## **Bond**

- 60. In the event that the landfill changes to private ownership, the Consent Holder must execute and maintain in existence a bond in the form set out in Attachment B.

## **Review of Conditions**

- 61. Pursuant to Section 128 of the Resource Management Act 1991 the Otago Regional Council may within six months of the anniversary date these resource consents each year serve notice of its intention to review the conditions of these consents for the purposes of:

- a) Determining whether the conditions of these consents are adequate to deal with any adverse effect on the environment which may arise from the exercise of these consents and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of these consents;
- b) Ensuring the conditions of these consents are consistent with any National Environmental Standards, relevant regional plans and the Otago Regional Policy Statement;
- c) Ensuring the waste acceptance criteria conditions of these consents are consistent with applicable Ministry for the Environment and Environmental Protection Authority guidance, standards and notices, including for emerging contaminants;
- d) Reviewing the requirements and frequency of monitoring and reporting required under these consents; or
- e) Requiring the adoption of the best practicable option to reduce any adverse effect on the environment.

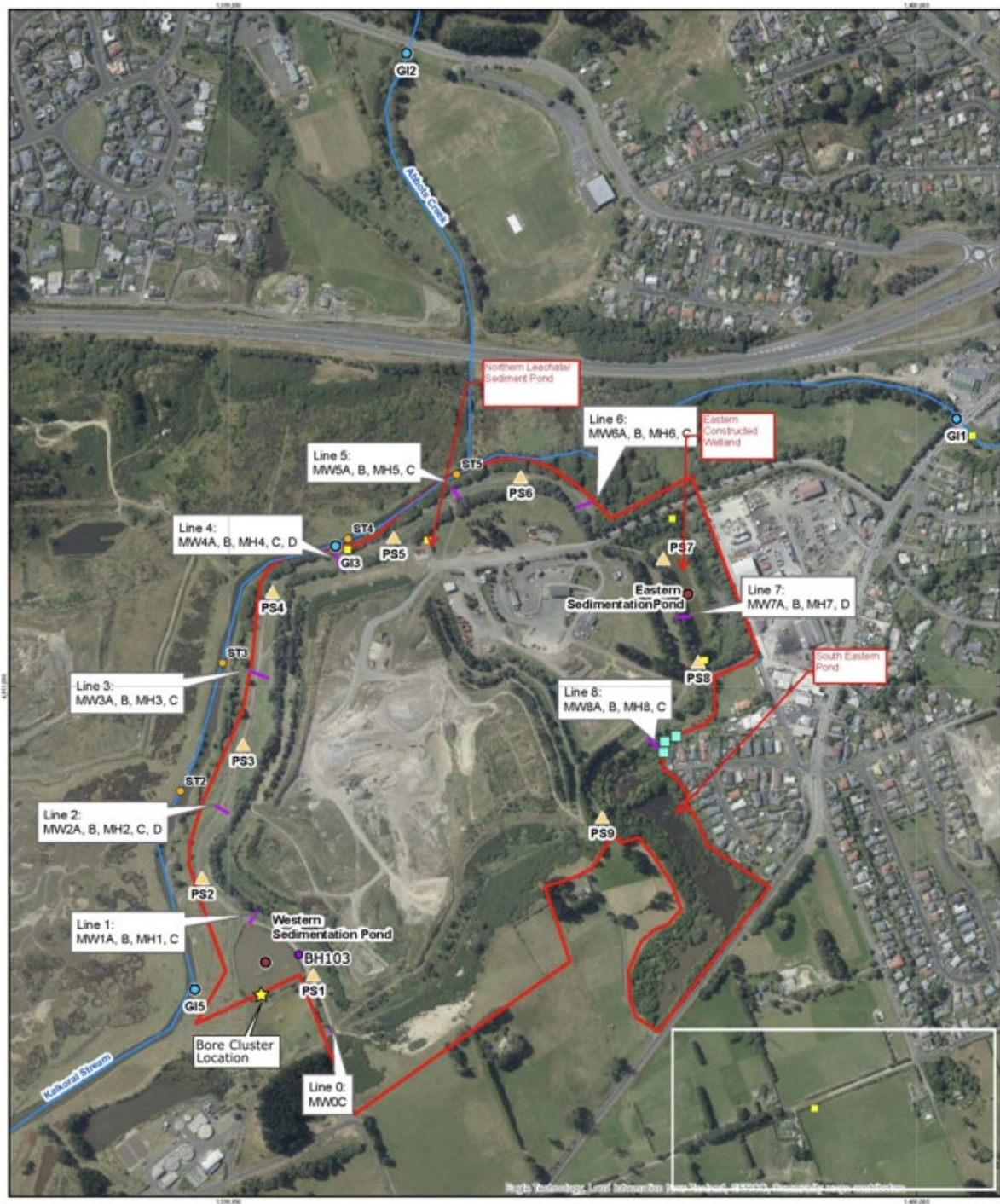
### **Advice Notes:**

*For the purposes of these consents:*

- *‘site’ means all land within the designation boundary shown on Figure 8 in section 7.1 of the Green Island Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023.*
- *‘landfill operational area’ means the area shown as such on Figure 8 in section 7.1 of the Green Island Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023.*
- *‘landfill extent’ means the area shown as such on Figure 8 in section 7.1 of the Green Island Closure, Assessment of Environmental Effects, Boffa Miskell, March 2023.*
- *‘active landfilling area’ means the area of exposed waste.*
- *‘highly odorous wastes’ means, but is not limited to:*
  - *Wastewater treatment sludges, biosolids, and screenings;*
  - *Wastewater pump station screenings and grits;*
  - *Animal remains;*
  - *Waste from meat processes;*
  - *Wool scour, tannery, and fellmongery waste; and*
  - *Fish waste.*
- *‘stormwater’ means water running off from any impervious surface such as roads, carparks, roofs, as well as any other surface run-off that is collected and/or intercepted.*
- *‘liquid waste’ means any waste that contains free liquid on arrival at the landfill, or has a solids content of less than 20%, except such waste that passes the USEPA Paint Filler Liquids Test (EPA Method 9095A).*
- *‘closure’ means the completed state of the landfill following:*
  - *Placement of the capping layer on the final stage of the landfill, and establishing vegetation cover.*
  - *Completion of the installation of the LFG wells and associated pipework.*
  - *Establishment of vegetation over the soil borrow area.*
  - *Removal of any site facilities and infrastructure that is not required during the aftercare period or modifying such infrastructure for the aftercare period.*



## Attachment A – Groundwater and Surface Water Monitoring Locations



# Bond for Green Island Landfill

31  
BY THIS BOND dated this ~~xx~~ day of March 2025

THE DUNEDIN CITY COUNCIL, a territorial authority under the local Government Act 2002 (with each of its respective successors, administrators and assigns) but not including any Council Controlled Organisation or other third party operating the Green Island Landfill on its behalf ("DCC") acknowledges that subject to the provisions below it is bound to pay to THE OTAGO REGIONAL COUNCIL, a Regional Council under the Local Government Act 2002 ("the Council") the sum of two million dollars (\$2,000,000), and is subject to the other terms of this bond.

## WHEREAS:

- A. DCC is the registered proprietor of an estate in fee simple in the pieces of land described in the schedule hereto ("the land").
- B. DCC applied to the Council for Resource Consents in respect of the land for the Green Island landfill.
- C. The Council granted Resource Consents on conditions that DCC shall enter into this bond to be effective in the event that the land is to be transferred by DCC to private ownership.

## THIS BOND shall be void:

- 1. While the DCC:
  - (a) is the owner of the land; and
  - (b) Complies with the conditions of the Resource Consents granted by the Council for the operation, closure and aftercare of the Green Island landfill (consents RM23.185.01-08 ("the obligations")); or
- 2. If DCC transfers the land to a future owner or transfers the resource consents referred to below to another operator including any Council Controlled Organisation or other third party ("Future Owner"), and the Future Owner:
  - (a) Complies with the conditions of the Resource Consents granted by the Council for the operation, closure and aftercare of the Green Island landfill (consents RM23.185.01-08 ("the obligations")); and
  - (b) Agrees with the Council in writing to comply with the terms of this bond which includes to indemnify the Council against all costs (including costs as

between solicitor and client) damages and expenses, claims, actions and proceedings of or against the Council in consequence of or arising out of any fault, neglect, or sufferance of the owner, its servants, agents or contractors in respect of complying with the obligations and/or the exercise by the Council of its servants, agents or contractors of any of its rights, powers and remedies available under this bond.

3. This bond is released and void once all of the consents RM23.185.01-08 have expired and all consent conditions have been complied with as certified in writing by the Council.

**IT IS AGREED that:**

4. IF the DCC or any Future Owner fails to fulfil the obligations the DCC shall on demand by the Council pay to the Council the sum of two million dollars (\$2,000,000) either in cash, or provide a security by a bank or other financier that is approved by the Council, including the terms of any security, or such portion as may be demanded by the Council provided that in the latter case the Council may from time to time thereafter demand and the DCC shall whenever demand is made on it pay the balance or any portion of the said sum of two million dollars (\$2,000,000) until the full amount thereof if required by the Council has been paid, by the DCC to the Council.
5. THE Council, and its officers, servants or contractors, may at any time and from time to time enter on the land and take such steps and carry out such work as may be necessary to fulfil the obligations.
6. ALL expenses incurred by the Council under the clause 5 shall be recoverable by the Council from the bond paid by the DCC under clause 4.
7. WHERE the cost of any work done, and expenses incurred, by the Council under the terms of this bond, including under clause 5, exceeds the bonded amount of \$2,000,000 the amount of the excess cost above \$2,000,000 shall constitute a debt due to the Council by the DCC and shall be a charge on the land. All costs incurred by ORC to recover any debt due from the DCC are payable by the DCC to ORC.
8. THIS bond may be varied or cancelled or renewed at any time by agreement between the DCC and the Council.
9. THE liability of the DCC hereunder shall not be released varied or affected in any way by any delay, extension of time or other indulgence granted by the Council or by any delay, failure or neglect of the Council to enforce its rights hereunder or any obligation of the DCC hereunder.
10. THE powers and remedies hereby given to the Council are in addition to all other powers and remedies conferred on it by the Resource Management Act 1991 or

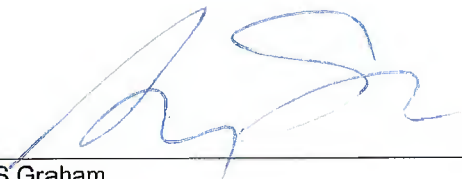


by any other Act and the exercise by the Council of any power or remedy under this bond or any such Act shall not prejudice its authority to exercise any other such power or remedy.

11. THIS bond shall be registered by the DCC at its cost under the Land Transfer Act 1952 against the land pursuant to section 109 of the Resource Management Act 1991.
12. IT is the intention of the parties that this bond is deemed to be a covenant running with the bonded land.

Signed by **THE DUNEDIN CITY COUNCIL**  
under delegated authority by:

:

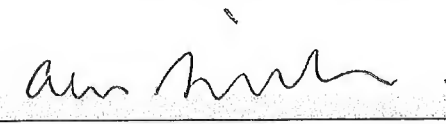
  
\_\_\_\_\_  
S Graham  
Chief Executive

Signed by **THE OTAGO REGIONAL COUNCIL** under delegated authority by:



  
\_\_\_\_\_  
Councillor  
Cr Gretchen Robertson

Signed by **THE OTAGO REGIONAL COUNCIL** under delegated authority by:

  
\_\_\_\_\_  
Councillor  
Cr Alan Somerville



**SCHEDULE TO BOND**

1. 4.2765 hectares more or Less being Lot 1 Deposited Plan 20582 and being part Sections 41, 42 and 43 Green Island Bush District and part Section 64 Block VII Dunedin and East Taieri District and being all the land comprised and described in Certificate of Title 12C/262 subject to the reservations, covenants, restrictions and conditions as set out in the Certificate of Title.
2. 49.0242 hectares more or less being parts Sections 45, 46 and 47 Green Island Bush District and Sections 54, 55, 63, 65 and 119 Block VII Dunedin and East Taieri District and being all the land comprised and described in Certificate of Title 11B/1241 subject to the reservations, covenants, restrictions and conditions as set out in the Certificate of Title.
3. 1.0841 hectares more or less being parts Sections 45, 46 and 47 Green Island Bush District and being all the land comprised and described in Certificate of Title 368/19 subject to order in Council 3714 as to the reservations, covenants, restrictions and conditions as set out in the Certificate of Title.
4. 6.36.96 hectares more or less being Section 103 and part Sections 85, 86, 87, 98, 99, 100, 101, and 102 Block V Lower Kaikorai District and being all the land comprised and described in Certificate of Title 13A/566 (Otago Registry) subject to reservations, covenants, restrictions and conditions as set out in the Certificate of Title.
5. 6.0424 hectares more or less being Section 120 and part Section 53 Block VII Dunedin and East Taieri District and closed road intersecting Sections 86, 87, 98, 102 and 103 Block V Lower Kaikorai District and being all the land comprised and described in Certificate of Title 11C/1275 (Otago Registry) subject to reservations, covenants, restrictions and conditions as set out in the Certificate of Title.
6. 8.2303 hectares more or less being part Sections 38, 39, 40, 44 and 156 Green Island Bush District and being all the land comprised and described in Certificate of Title 7C/934 (Otago Registry) subject to reservations, covenants, restrictions and conditions as set out in the Certificate of Title.

## Attachment C – Legal Descriptions

### Green Island Landfill Site (as defined by the existing designation in the Proposed Second Generation Dunedin City District Plan)

Site	Legal Description	Record of Title	Area	Owner
9 Brighton Road	Part Section 45-47 Green Island Bush Survey District and Section 54 and 63 Block VII and Section 119 Block VII Dunedin & East Taieri Survey District	OT11B/1241	41.8120 hectares	Dunedin City Council
9 Brighton Road	Part Section 45-47 Green Island Bush Survey District	OT368/19	1.0841 hectares	
9 Brighton Road	Section 1 Survey Office Plan 24047	OT15C/1016	4718 square metres	
9 Brighton Road	Lot 6-7 Deposited Plan 572543 and Section 1 Survey Office Plan 24040	1040235	4464 square metres	
9 Brighton Road	Part Section 120 Dunedin & East Taieri Survey District and Part Section 53 Block VII Dunedin & East Taieri Survey District and Closed Road intersecting Sections 86,87,98,102 and 103 Block V Lower Kaikorai Survey District	OT16D/1193	4.0211 hectares	

9 Brighton Road	Section 103 Block V Lower Kaikorai Survey District and Part Section 85-87, 98 Block V and Part Section 99-101 Block V and Part Section 102 Block V Lower Kaikorai Survey District	OT16D/1194	5.5726 hectares	
9 Brighton Road	Lot 2, 4 Deposited Plan 572543 and Lot 1 Deposited Plan 20826	1040233	1837 square metres	
114 Brighton Road	Part Section 38-40, Part Section 44 and Part Section 156 Green Island Bush Survey District	OT7C/934	8.2303 hectares	
140 Brighton Road	Part Lot 4 Deposited Plan 4550	OT12C/261	10.4655 hectares	
170 Brighton Road	Lot 1 Deposited Plan 20582	OT12C/262	4.2766 hectares	
170 Brighton Road	Section 81 Block VII Dunedin & East Taieri Survey District	OT15A/266	4401 square metres	
<b>Total Area</b>			75.6164 hectares	

**Green Island Wastewater Treatment Plan Site (location of LFG engine and flare):**

Site	Legal Description	Record of Title	Size of entire property	Owner
9 Brighton Road	Section 55 and 65 Block VII Dunedin & East Taieri Survey District	OT11B/1241	7.2122 hectares	Dunedin City Council
9 Brighton Road	Lot 30 Deposited Plan 24758	OT16C/1083	3.7127 hectares	
174 Brighton Road	Part Section 48 Deposited Plan 2323	OT166/158	2.1102 hectares	
174 Brighton Road	Lot 1 Deposited Plan 22230	OT14C/1027	7.1854 hectares	
<b>Total Area</b>			20.2205 hectares	