

Under the Resource Management Act 1991 (**RMA**)

In the matter of an application by **Dunedin City Council** for resource consents for the operation, closure and aftercare of the Green Island Landfill, Dunedin.

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**Statement of evidence of Christopher Brent Henderson**

4 March 2025

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**Applicant's solicitors:**

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**anderson  
lloyd.**

## **Qualifications and experience**

- 1 My name is Christopher Brent Henderson.
- 2 I have been employed as the Group Manager of the Waste and Environmental Solutions Group at Dunedin City Council (Council / DCC) for seven years.
- 3 I am an Aeronautical Maintenance Technician with a Bachelor of Applied Management and a Diploma in Wastewater Treatment.
- 4 I am a member of the Waste Management Institute of New Zealand

## **Scope of evidence**

- 5 I have been asked to prepare evidence in relation to the application for resource consents for the continued operation, closure and aftercare of the Green Island landfill in the context of the wider Waste Futures Programme.
- 6 This evidence will cover:
  - (a) Background on this application in the context of the wider Waste Futures programme;
  - (b) Evaluation of options for waste disposal until the Smooth Hill landfill is able to accept waste;
  - (c) Engagement with Aukaha and Te Rūnanga o Ōtākou, key stakeholders and the local community; and
  - (d) Submissions on the resource consent application, and responses to submissions.

## **Executive Summary**

- 7 The application for consents for the continued operation, closure and aftercare of the Green Island landfill is a key component of DCC's wider Waste Futures programme.
- 8 There were a number of options considered for the disposal of waste in the period prior to the Smooth Hill landfill being able to accept waste. DCC evaluated these options on the basis of cost, efficiency, and acceptability to the community and identified an extension to the Green Island landfill, within the existing landfill footprint, as the best option for Dunedin City.
- 9 DCC has engaged with Te Rūnaka o Ōtākou, key stakeholders, and the local Green Island community on the plans for continued operation, closure

and aftercare of the Green Island landfill. This engagement has informed the resource consent application and will continue to inform the development of management plans that give effect to the consents, if granted.

- 10 DCC has considered the submissions that the ORC received on the resource consent application and is committed to addressing the issues raised in these submissions via the proposed conditions of consent.

### **Background on this application in the context of the Waste Futures programme**

- 11 The Waste Futures programme is the overarching programme to develop a comprehensive waste management and diverted material system for Dunedin.
- 12 The DCC has committed to reducing waste to landfill through the Waste Minimisation and Management Plan (WMMP), which set out to achieve zero waste to landfill by 2040.
- 13 While DCC is committed to reducing waste to landfill, in the medium term, DCC must also be able to continue to meet Dunedin's waste disposal needs.
- 14 The Waste Futures programme has therefore included projects to enable waste minimisation and diversion, as well as those to provide for well managed waste disposal. Key milestones in the Waste Futures programme have already been achieved including:
  - (a) the granting of consents for a new Class 1 landfill at Smooth Hill in May 2023;
  - (b) the granting of consents for the new organics receivals building (ORB) at the Green Island landfill site, and the subsequent construction of the ORB in early 2024;
  - (c) the introduction of the new kerbside food and garden waste collection service in July 2024; and
  - (d) the granting of consents for the new Resource Recovery Park (RRP) at the Green Island landfill site in January 2025.
- 15 This application for resource consents for the continued operation, closure, and aftercare of the Green Island landfill complements the other parts of the programme. If granted, these consents will provide for continued disposal of waste until the commencement of operations at Smooth Hill and

ensure that there are long term plans in place to manage the ongoing effects of the landfill and meet community needs.

### **Evaluation of options for waste disposal prior to operation of Smooth Hill landfill**

- 16 DCC considered a range of options for disposal of waste during the interim period when the Smooth Hill landfill is not able to accept waste including:
  - (a) Waste incineration;
  - (b) Disposal of waste at out of district landfills;
  - (c) Extension of the Green Island landfill footprint; and
  - (d) Filling within the current footprint.
- 17 The incineration and out of district options were determined to be expensive, unacceptable to mana whenua and dependent on the land transport system. Further DCC identified that these options would result in DCC losing control of the full waste cycle, which is a key objective of the Waste Futures programme.
- 18 DCC also recognised that extending the life of the Green Island landfill is beneficial because the infrastructure is already in place to receive and manage waste. The Green Island site is already designated for this purpose under the District Plan.
- 19 Green Island landfill currently represents a substantial \$14M “book value” investment in Dunedin’s waste disposal system including land, buildings, and supporting infrastructure such as gas extraction, stormwater, and leachate management systems etc.
- 20 The option to extend the landfill footprint would have involved extending the landfill south and across the main wastewater trunk sewer for the Green Island Wastewater Treatment Plant. This was considered unacceptable due to the difficulties associated with placing 20-25 meters of waste over the sewer.
- 21 Three options were identified for filling within the existing 38 hectare landfill footprint and perimeter bund. The preferred option, which is that proposed in the resource consent application, involves increasing the height of part of the landfill cap by 8 meters. This means that the maximum height of the cap will be 31.5m above mean sea level at the western edge of the landfill.

- 22 The increased height of the final landfill surface will provide an available landfill void of 670,000m<sup>3</sup> compared to a void of 529,000m<sup>3</sup> for the currently approved finished landfill surface.
- 23 It is anticipated that the increased capacity created by this height extension will allow for continued waste disposal at the Green Island landfill until sometime between December 2029 and March 2031.
- 24 As set out in section 4.2.2 of the Design Report (September 2023 update) the exact timeframe will depend on disposal rates. Between 2019 and 2021 the average annual volume of waste disposal at the landfill was 89,000m<sup>3</sup> per year. If this average annual waste volume were to continue, the projected life of the landfill would be until December 2029. However, the average volume of waste being disposed to landfill is expected to reduce with the diversion of food and garden waste resulting from the development of the RRP. If the average annual void consumption is reduced to 76,000 m<sup>3</sup>, the projected life of the landfill would be until March 2031.
- 25 The additional capacity will ensure there is a viable option available for the continued disposal of waste until the commencement of waste disposal operations at Smooth Hill, allowing for some overlap between the operation of the two landfills to provide for appropriate commissioning and testing at Smooth Hill.

## **Engagement**

- 26 DCC commenced engagement on the plans for the future of Green Island landfill in 2022, following development of the preferred option for closure of the landfill. Engagement focused on the following groups:
  - (a) Aukaha and Te Rūnaka o Ōtākou;
  - (b) Local key stakeholders, organisations, and interest groups such as Greater Green Island Business Association and Greater Green Island Community Network (GGICN), and;
  - (c) the Greater Green Island community, users of the Green Island Landfill facilities and immediate residential neighbours.

### *Engagement with Aukaha and Te Rūnaka o Ōtākou*

- 27 Engagement with Aukaha and Te Rūnaka o Ōtākou is as a Treaty partner, with regular hui held throughout the landfill design and consent process. An initial site visit was held in April 2022 with members of Aukaha and Te Rūnaka o Ōtākou to explain the project, understand their concerns and hear

aspirations for the site post closure. The site visit, together with regular huis, helped to inform the Cultural Impact Assessment (CIA).

- 28 In March 2023, Aukaha prepared a CIA of the Green Island Landfill operation, closure and aftercare. This CIA included recommendations on:
- (a) Wai Māori;
  - (b) Mahika kai and biodiversity values;
  - (c) Wāhi tūpuna.
- 29 In relation to Wai Māori the CIA recommended that all practicable measures are taken to prevent discharges entering water, including, where possible, preventing leachate from entering groundwater. Further, that the effects of the alteration of existing hydrology and contaminants are offset by mitigation measures such as riparian planting and pest management.
- 30 In relation to mahika kai and biodiversity values, the CIA recommended that habitats and the wider needs of mahika kai and taoka species be protected, and that the Vegetation Management and Restoration Plan (VMRP) be developed in partnership with mana whenua.
- 31 Regarding wāhi tūpuna, the CIA recommended the protection of the full range of landscape features of significance; ensuring that the interpretation of Kai Tahu histories associated with the Kaikarae Estuary and Pukemakamaka is undertaken by Te Rūnaka o Ōtākou; encouraging the use of traditional place names; requiring site rehabilitation plans for contaminated land; and undertaking a collaborative process to ensure that mana whenua values inform the development of plans following closure of the landfill.
- 32 Council's proposed conditions of consent aim to ensure that all practicable measures are taken to prevent contaminants entering water, effects on mauri and whakapapa are offset, and that mahika kai, taoka species, and wāhi tūpuna are protected.
- 33 DCC is also committed to working in partnership with mana whenua over the long-term use of the Green Island landfill site post closure. The outcomes of this process will be outlined in the Landfill Closure Management Plan.

#### *Engagement with the local community and key stakeholders*

- 34 Community engagement focused on local key stakeholders and interest groups, users of the landfill, residential neighbours and the local Greater

Green Island community. Engagement commenced in early 2023 and continued throughout 2023 and 2024, with DCC staff regularly attending GGICN committee meetings, various GGICN events, holding a range of online and in-person information sessions and meeting with local residents and neighbours.

- 35 Flyers were delivered to houses in Clariton Avenue, Taylor Street, Wavy Knowes and parts of Walton Park, providing information about the plans for the future of Green Island landfill site, including the new RRP and inviting people to attend various engagement activities.
- 36 Council also held drop-in information sessions at the Green Island landfill, and at public locations around Green Island suburb, including the local supermarket, and Sunnyvale Sportsground. Several online information sessions were also held and there were regular updates in the Greater Green Island 'Informer' newsletter and the DCC Waste Futures website. The DCC team also had a stall at the GGICN 'Greater Green Island Get Together' in September 2023, with further flyer drops and project handouts.
- 37 It is estimated that over the course of these engagement activities the DCC project team engaged with over 300 people.
- 38 Some key messages from the engagement that are relevant to the ongoing operation, closure and aftercare of the Green Island landfill were that:
  - (a) the community has significant interest in potential recreation opportunities in the future, such as tracks and trails, when the Green Island landfill closes;
  - (b) the community holds concerns for the health of the Kaikorai Estuary and Stream and interest in plans to improve the health of the waterway;
  - (c) the community is concerned about the effects to immediate neighbours of the landfill continuing to operate, particularly odour and noise.
  - (d) the community wants to ensure that views of the ongoing landfill activities are kept to a minimum, whilst also maintaining the existing views to Pukemakamaka (Saddle Hill).

#### *Engagement with residential neighbours*

- 39 During the engagement several residential neighbours from Clariton Ave, expressed interest in being kept regularly informed about the plans for the Green Island landfill site – including the RRP.

- 40 Regular one-on-one meetings have subsequently been held with these neighbours from March 2023 onwards. The DCC also invited neighbours to join guided tours of the Green Island landfill and RRP site, providing further opportunities for them to find out more of what is planned, raise concerns, and ask questions.

#### *Ongoing engagement*

- 41 DCC will continue engaging with the local community and key stakeholders, residential neighbours and landfill users, through participation in local Green Island events and interest group meetings, project updates via signage and leaflets at the publicly accessible areas of the landfill, regular articles in the local 'Informer' newsletter and updates on the DCC Waste Futures webpage.

#### *Community Liaison Group*

- 42 The proposed conditions of consent also include the establishment of a formal Community Liaison Group for the purpose of facilitating ongoing engagement between the consent holder and the local community on the operation and closure of the landfill. This group will provide a forum for the community, including neighbours, to formally raise issues and concerns with Council, and to discuss ways of addressing those issues and concerns.

#### **Submissions received on the Green Island landfill resource consent application**

- 43 Council received four submissions on the Green Island landfill resource consent application, two from local Dunedin residents (one in support and one neutral), one neutral submission from Aukaha on behalf of Te Rūnaka o Ōtākou, and one neutral submission from the Otago Fish and Game Council.
- 44 The submission in support of the landfill stated that ongoing operation of the landfill at this site is the best use of the land at this location in the short term. The neutral submission focussed on odour effects at the landfill and sought an improvement in odour management.
- 45 The submission from Aukaha stated that Te Rūnaka o Ōtākou accepts the need for continued waste disposal until the new Smooth Hill landfill is ready to accept waste, but requested:
- (a) an ongoing commitment to manage surface water runoff, leachate and landfill gas once the landfill closes;



- (b) that Council work in collaboration with mana whenua to investigate migration of leachate into Kaikarae Stream and Estuary, and the cumulative impacts of leachate on Kaikarae Stream and Estuary; and
  - (c) development of measures to avoid or mitigate impacts of leachate on the environment.
- 46 The submission from Otago Fish and Game requested
  - (a) further investigation into the source of leachate indicators detected off site;
  - (b) enhanced monitoring of the effectiveness of the leachate collection trench;
  - (c) explicit consent conditions regarding further ecological assessments to address potential adverse effects on ecological health and lowering of the leachate head;
  - (d) incorporation of seismic resilience into the new leachate collection trench; and
  - (e) ensuring adequate evidence and monitoring are in place to inform adaptive management.
- 47 The issues and concerns raised by submitters have informed the proposed conditions of consent which include conditions to:
  - (a) Monitor and manage odour effects;
  - (b) Extend the leachate collection trench;
  - (c) Enhance monitoring of the effectiveness of the leachate collection trench; and
  - (d) Manage ongoing effects of the landfill post closure – including in particular leachate and landfill gas.
- 48 DCC acknowledges that there is concern about the degraded state of the Kaikarae Stream and Estuary due to the effects of historical landfilling and industrial activities in the wider catchment.
- 49 DCC is committed to monitoring for, and addressing any adverse effects on the Kaikarae Stream and Estuary that have been identified as directly associated with the Green Island landfill.

- 50 While not responsible for addressing wider catchment issues, DCC will work in partnership with the ORC, Te Rūnaka o Ōtākou and other interested parties, outside of the landfill consenting process, to support wider catchment monitoring, management, and remediation activities.

**Christopher Brent Henderson**

04 March 2025