Under	The Resource Management Act 1991 (**RMA**)
In the matter of	an application by **Dunedin City Council** for resource consents for continued operation, closure and aftercare of the Green Island landfill
	Otago Regional Council reference RM23.185
	Dunedin City Council
	Applicant

Legal Submissions on behalf of Dunedin City Council

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Introduction

1 Dunedin City Council (**Council**) is applying to the Otago Regional Council (**ORC**) for the necessary resource consents for the continued operation, closure and aftercare of the Green Island landfill, located at Brighton Road, Dunedin.

2 This project is a key component of Council's Waste Futures program, which aims to ensure effective reduction and management of solid waste; and to enable Dunedin city to move towards a more circular economy.

3 The project has three phases:

(a) Continued operation of the Green Island landfill until approximately 2030 when the new class 1 landfill at Smooth Hill will be commissioned and operating to accept waste. This involves utilising capacity above the existing footprint for waste to provide a short term extension to the landfill life. This proposal has been assessed as the best option compared to a range of alternatives, such as incineration, or exporting waste out of the Region;

(b) Closure of the Green Island landfill, once the Smooth Hill landfill is operating; and

(c) Aftercare of the Green Island landfill, including ongoing monitoring and management of any effects of the landfill, and planning for future community uses of the site.

4 The Green Island site will continue to be used for waste diversion and waste transfer activities under the resource consents issued for the Resource Recovery Park (**RRP**), and the Organics Receival Building (**ORB**).

5 Council has invested significantly in the Waste Futures program and has allocated $18.468 million in capital expenditure in the nine year plan for 2025-2034 for the continued operation, closure and aftercare of the Green Island landfill.

6 The scope of the Regional Council consents needed, the relevant matters for assessment including the statutory framework, have been identified by Ms McDonald in the section 42A report. This is agreed with by Mr Dale for the Applicant in his evidence.

7 It is the Applicant's position this is an essential project to implement on the terms sought to enable the ongoing disposal of the city's waste until the Smooth Hill landfill replaces Green Island.

8 These legal submissions address matters that are raised in the evidence or in the section 42A report and not agreed on by the relevant witnesses. Overall the section 42A report is broadly supported by the Applicant.

9 Key issues to resolve are the conditions of consent on various topics, these are grouped as follows:

(a) Potential odour effects;

(b) Landfill cap;

(c) Leachate head;

(d) Water quality and wider catchment issues;

(e) Bond;

(f) Relationship with operation of Smooth Hill landfill; and

(g) Aftercare and future site use.

10 It is noted that the land use component (section 9 RMA) is authorised by an operative designation in the Dunedin City District Plan.

Potential odour effects

11 The ORC and DCC reviewers differ on the likely potential odour effects.

12 ORC's technical reviewer, Ms Freeman expressed the view in both the Air Quality technical review report and the technical review attached to the 42A report that DCC's proposed odour mitigation measures should result in a reduction in odour emissions from landfill operations.

13 Ms Freeman's opinion was that the air quality assessment had not established that off-site odour impacts would reduce to the extent that there is no offensive or objectionable odour effect from the landfill activities. Ms Freeman's evidence referenced the ongoing receipt of odour complaints as well as the submission of Mr Venables to support this conclusion. She did acknowledge that even with best practice it is not possible to eliminate odours at any landfill (para 31 of evidence).

14 DCC's air quality expert Mr Stacey notes that for most activities that have the potential to generate odour it is not always possible to internalise odour within the site boundary. Mr Stacey responds to Mr Freemans' opinions in his evidence, (particularly paragraphs 82-88).

15 Mr Stacey refers to the Ministry for the Environment's Good Practice Guide for Assessing and Managing Odour (**MfE Guidance**). The MfE Guidance states that “noxious”, “offensive”, and “objectionable” odours have adverse effects.

16 On this basis Mr Stacey recommended that the condition proposed by ORC is redrafted to align with the MfE guidance (see condition 4 on discharge to Air consent):

> “There must be no noxious, dangerous, offensive or objectionable odour to the extent that it causes an adverse effect at or beyond the boundary of the site.”

17 It is submitted that the revised wording of this condition is appropriate. This condition operates in conjunction with the suite of conditions proposed on the discharge to air consent and the operational changes such as removing putrescible waste to manage, monitor and remedy odours from the landfill operation.

Landfill cap

18 The ORC and DCC experts differ on the appropriate grade for the final landfill cap.

19 ORC's technical reviewer of the landfill design, Mr Elliot, highlights that the proposed final landfill cap grade includes areas with a gradient of 2%, which is below the minimum capping grade of 5% recommended in the WasteMINZ Technical Guidelines for Disposal to Land[1].

20 Mr Elliott states in paragraph 37 of his review that ‘The intent of a minimum cap grade is to promote surface water runoff, and to provide some redundancy against flat spots where water can pool in the event of localised settlement due to waste breakdown.'

21 Ultimately the cap grade guidelines are aimed at reducing leachate generation from water pooling on the landfill surface.

22 DCC's landfill design expert, Mr Roberts sets out the reasons why, in his view, the blanket 5% minimum grade is not necessary at the Green Island landfill site. These reasons are that:

(a) The Green Island landfill is not expected to exhibit significant differential settlement post closure as, due to the age of the landfill,

[1] Waste Management Institute of New Zealand (WasteMINZ), 2023. Technical Guidelines for Disposal to Land, September 2023, WasteMINZ.

the waste currently located in the footprint has been in place for a considerable period of time and has already consolidated;

(b) Future waste placed at the Green Island Landfill will be predominately domestic/industrial waste and soils with a relatively low organics content due to the diversion of organics to the organics processing facility since July 2024. As such it is expected that the waste will experience less tertiary (degradation) settlement compared to waste with a high proportion of degradable material.

23 Mr Roberts concludes that "Given the lower site-specific risk of differential settlement due to the age of the existing waste and type of proposed waste, it is my opinion that the construction of the final landform cap with a shallower grade than 5% grade is not expected to result in significant additional risk of surface water ponding or increase in leachate generation over time."

24 Mr Roberts also notes that DCC will continue to own the Green Island site and will have staff on site at the RRP post closure, enabling ongoing monitoring and maintenance of the landfill cap.

25 If this ongoing monitoring identifies low spots in the landfill cap they can be remediated by removing the revegetation and subsoil layers and backfilling the low spot with compacted clay to re-establish a suitable grade.

26 Mr Roberts also noted the uncertainty about future volumes of waste to be deposited at the site, due to the future impact of the new waste diversion facilities at the RRP. He recommended that the consent conditions should reflect this uncertainty, and that the final landform cap profile should be revised as part of the Landfill Closure Plan.

27 To demonstrate how this would be facilitated Mr Roberts has completed a review of the current design and developed a possible final landform with a gradient of 4% or greater for most of the landform.

28 A landform with final capping slopes generally greater than 4% can be achieved with no changes to the maximum height or the external batters, by adjusting the contours of the upper platform.

29 It is submitted that, as observed by Mr Roberts, the WasteMINZ requirement of a gradient of 5% or greater is a "blanket guideline" that does not take account of landfill depth, or the type of waste deposited.

30 Due to the age of the Green Island landfill, the consolidation of waste that has already occurred, and the nature of future waste to be deposited, a minimum gradient of 5% is not required.

31 The proposed conditions from DCC require a final cap to, as far as practicable, have a gradient of 4% or greater (general condition 37). This needs to be finalised and certified by ORC under the detailed design process in general condition 23 with a design report and specifications for a range of technical detail, including final capping.

32 This is submitted to be a suitable approach to maximise the cap gradient, while not unnecessarily reducing the available landfill void, or increasing the height.

Leachate head

33 Mr Elliot and Mr Roberts also take a different view on whether a pumping trial is required to manage the depth of the existing leachate head within the landfill.

34 The technical review prepared by Mr Elliot notes that in some parts of the landfill the depth of the leachate head is 10m or more, which is not in line with the WasteMINZ Guidelines.

35 Mr Elliot recommends that "leachate is actively pumped from the waste mass, on a trial basis as a minimum, to assess if extraction can reduce the leachate head in the cells, and in turn reduce the potential for leachate migration offsite to occur." (See conditions 1 and 2 on Discharge of Waste and Leachate to land consent – DCC shows as deleted.)

36 Mr Roberts, agrees that, due to the Green Island landfill being uncapped for many years, the leachate levels within the landfill have built up over time.

37 However Mr Roberts does not agree that a leachate pumping trial is required for the following reasons:

(a) the existing leachate trench has been assessed as effective at intercepting leachate;

(b) the design proposal includes a network of horizontal drains to promote the flow of leachate from future waste to the existing perimeter leachate system rather than into the existing waste mass below;

(c) pumping leachate from the landfill gas wells is an additional leachate extraction measure; and

(d) the proposal outlines a staged approach for filling and capping works. The progressive installation of the final cap will reduce rainfall infiltration and hence reduce the volume of leachate generated in the future.

38 Mr Roberts does not see a benefit in undertaking the pumping trial proposed by ORC unless:

(a) the existing and proposed measures for leachate extraction and the installation of the final cap do not reduce the leachate head. This can be monitored by the Landfill Development Management Plan; and

(b) the Landfill Closure Management Plan demonstrates that the leachate head is rising above a level that would compromise stability of the landfill and/or is having an adverse environmental impact.

39 Instead, Mr Roberts recommends that the leachate pumping trial is included as part of the Landfill Development Management Plan. If the trial is required it should be undertaken to inform an adaptive management approach to any leachate management issues that emerge at the site.

40 It is submitted that installing leachate pumping networks in the existing waste is complex, costly and not justified to be carried out as a "trial". Leachate in the existing waste has occurred naturally and lawfully. The progressive final capping and the exiting leachate collection system at the perimeter will in time reduce this leachate head. Disturbing that existing waste to trial pumping is not necessary, nor justified on the evidence to mitigate any known effects.

Water quality and wider catchment issues

41 The evidence from Ms Mains on behalf of DCC is that the leachate collection system is effective to contain leachate (see Ms Mains evidence paragraph 21).

42 To add to the existing infrastructure the proposal is to extend the leachate collection trench with associated pump stations along the southern side of the landfill. This is to collect leachate and complete the gap in the leachate collection system in that location (this is addressed in the application and discharge of waste to land condition 5).

43 In addition to this, a new monitoring well cluster of three wells adjacent to the stormwater treatment ponds to the south of the landfill are proposed. These likely require further resource consent due to their proximity to a

wetland. This work is volunteered by the Applicant in general conditions 40 and 41.

44 It is proposed that the Applicant have three months to lodge a resource consent, assuming one is required following the grant of consent. This is proposed as realistic to get together drawings, information and an assessment of environmental effects, policy assessment and any other information required by the ORC for acceptance for lodgement.

45 Construction of those new wells is then required within three months of any consent being granted, or should no consent be needed, within three months of this consent being granted. This is to allow a reasonable time for procurement, any fabrication needed, drilling of these wells and their commissioning. Because this is an absolute requirement on the consent holder it is submitted a realistic timeframe is needed to implement these monitoring measures.

46 In addition to these measures, a comprehensive suite of ground water and surface water monitoring is proposed. Specifically monitoring is proposed to check for potential leachate escape past the leachate collection system. The Applicant has taken the approach (based on Ms Mains technical advice and evidence) that if leachate is detected then an adaptive management system is to be triggered to assess where leachate may arise, the cause of that and to plan for any physical intervention necessary to remedy the escape and prevent that from continuing. The Applicant considers this highly unlikely, but a precautionary measure in the event that something unanticipated is detected in the monitoring of the landfill overtime.

47 It is submitted this is an appropriate precautionary response to monitor and manage the operation and closure of the landfill.

48 The evidence of Ms Mains, Ms Blakely, and Mr Henderson also notes that the wider catchment of the Kaikorai Stream and Estuary are degraded due to historical industrial and landfilling activities.

49 While not responsible for addressing upstream discharges that can affect the wider catchment (including historic ones), DCC will collaborate with, and support the work of 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.

Bond

50 It is noted that the Commissioner's question to Mr Dale in Minute 3 identifies the existing bond relating to the Green Island consents "only provides for a fixed bond of $1 million".

51 This is not completely correct. The bond does provide a bonded sum of $1 million, but goes on to provide:

(a) the bond requires that the DCC or any future owner indemnifies the Otago Regional Council "against all costs, damages and expenses, claims, actions and proceedings" arising out of any default. This indemnity is uncapped;

(b) the Otago Regional Council may at any time enter onto the land and take such steps to carry out such work as may be necessary to fulfil the conditions of consent (Clause 2, page 5);

(c) all expenses incurred by the Otago Regional Council in doing so constitute a debt due to the Otago Regional Council by the DCC (Clause 3, page 5);

(d) where the cost of any work done by the Otago Regional Council exceeds the amount recovered, the amount of the excess constitutes a debt due and is a charge on the land (Clause 4, page 5).

52 These obligations provide a general indemnity which is registerable as a charge on the property. These obligations are uncapped and could potentially exceed $1 million if called upon by the ORC.

53 While the bond is old it has been in effect since 1994 without incident. It does provide a comprehensive indemnity and assurance that in the event that any future owner defaults with compliance there is $1 million to call upon, as well as an indemnity for any expenses incurred by the ORC to remedy any consent breach. This indemnity is all-encompassing and is not capped.

54 The bond does provide that it is void while DCC remains the land owner. It is submitted for the remaining operation and aftercare of the Green Island landfill this is appropriate. There is no intention by DCC to sell the Green Island landfill. Being a public body, DCC has statutory duties to comply with consent terms. Implementing a further contractual bonded duty in my submission does not provide the ORC or the public any further practical assurance there will be compliance by DCC. Further as has been explained in the evidence of Ms Graham, DCC is already in the process of working

through the financial planning to levy and commit $18.468 million of public funds towards the Green Island project for which consent is being sought.

55 It is submitted that establishing a risk-based bond similar to that required for Smooth Hill is not warranted here because:

(a) Smooth Hill is a greenfields site and it is appropriate for all risks to be qualified and managed from the outset under a bond;

(b) Green Island landfill has been operating under this current bond arrangement since at least 1994 without difficulties with the bond;

(c) the short-term extension of operations to 2029/2030 and then the aftercare can appropriately continue to operate under the same bond terms;

(d) as explained, the current terms are comprehensive and uncapped in the event DCC dispose of the property, which is not intended; and

(e) engaging a specialist to develop a risk-based quantification for a bonded amount is likely to be complex, time-consuming and challenging for the existing and future operation of Green Island. As set out above any dollar amount arrived at is likely to be less than the uncapped indemnity already in effect.

Relationship with Smooth Hill operating

56 The resource consents for the proposed Smooth Hill landfill were granted in May 2023. However, prior to the commencement of operations at Smooth Hill, Council is required to:

(a) complete 36 months of baseline monitoring;

(b) complete detailed landfill design,

(c) prepare finalised management plans, and

(d) complete the initial landfill works and associated roading upgrades outside the site.

57 Due to these requirements it is unlikely that Smooth Hill will be ready to accept waste until 2029.

58 This means that Council must plan to continue to operate the Green Island landfill until the transition to the Smooth Hill landfill is able to be carried out following commissioning.

59 Council acknowledges that there may be a brief "bedding in" period between the first acceptance of waste at Smooth Hill, and the point where Smooth Hill is fully operational and able to accept all of Dunedin's waste for disposal. This is why proposed consent condition 3 in the Discharge of Waste and Leachate to Land Conditions sets out that waste acceptance at the Green Island Landfill must cease no later than 12 months after the Smooth Hill Landfill has been commissioned and begins accepting waste.

60 It is submitted that this condition allows for an appropriate transition between the two facilities.

61 This proposed condition allows for ramping up at Smooth Hill, as Green Island winds down. The ORC wording focused on closing Green Island "once" Smooth Hill accepts waste. Additional allowance is proposed by DCC to allow cleanfill and capping material required to go to Green Island to compete capping and profiling once waste ceases.

Aftercare and future site use

62 Proposed general conditions 16-20 provide for the preparation of a Landfill Closure Management Plan which will cover post closure management of landfill gas, leachate, groundwater and stormwater quality; post closure maintenance of the landfill cap, post closure monitoring procedures, emergency management; and complaints procedures. Further, every three years following the final acceptance of waste at the landfill, the Consent Holder must, in consultation with Te Rūnaka o Ōtākou, complete a review of the Landfill Closure Management Plan to ensure that the management practices remain adequate to ensure compliance with conditions of consent.

63 The Landfill Closure Management Plan must be prepared by a suitably qualified and experienced person and in consultation with Te Rūnanga o Ōtākou,

64 It is submitted that these conditions provide a robust framework for monitoring for, and managing any ongoing effects of the landfill post closure.

65 Council is also committed to collaborating with the community to plan for future uses of the site that capitalise on the recreational and open space amenity opportunities offered. As recommended in the Cultural Impact Assessment prepared by Aukaha, post-closure plans will be informed by mana whenua values.

Term

66 Ms McDonald recommends 35 year terms except for:[2]

(a) Water permit RM23.185.02 for the taking of groundwater and connected surface water, which is recommended to be subject to a 6-year term consistent with policy 10A.2.3 of the RP-Water.

(b) Land use consent RM23.185.07 for the construction of a defence against water, which is recommended to be subject to an unlimited term.

67 This is considered appropriate and is supported by the Applicant.

Conditions

68 Mr Dale has been working with the relevant experts and assessed the recommendations of Ms McDonald in relation to recommended conditions. Mr Dale has produced a revised set of conditions which are attached to his evidence. The Applicant is content to align its position to these and therefore supports the conditions recommended by Mr Dale as being appropriate. The Applicant is prepared to offer those conditions as part of its application.

Conclusion

69 The continued operation, closure and aftercare of the Green Island landfill is a key component in the wider program to deliver on the waste minimisation strategy for Dunedin City.

70 Ongoing operation of the Green Island landfill will enable Dunedin's waste to be deposited in a class 1 landfill without the need to export waste, until such time as the Smooth Hill landfill is ready to accept waste. The co-location of landfill, and the new RRP facilities on the Green Island site is efficient both in terms of cost, planning and management of adverse effects on the environment.

71 Once the Smooth Hill landfill is able to receive Dunedin's waste, the Green Island landfill will be closed and the RRP facilities will be the primary use of the Green Island site.

[2] Section 14, s42A report

72 The aftercare of the landfill, including ongoing monitoring of effects on air and water quality, will ensure that the landfill site and surrounding area become an asset for recreational and other community pursuits.

73 It is submitted the necessary consents should be granted on behalf of the Otago Regional Council so that this facility can be constructed and be commissioned as soon as practicable.

Dated this 13th day of March 2025

Michael Garbett / Rebecca Kindiak
Counsel for the Applicant