

Before the Independent Commissioner Hearing Panel

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

In the matter of an application by **Dunedin City Council** to develop a landfill at Smooth Hill, Dunedin.

Applicant

Statement of evidence of Maurice Richard Dale – Planner

29 April 2022

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**anderson
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Qualifications and experience

- 1 My name is **Maurice Richard Dale**. I hold the position of Principal and Planner with the environmental consultancy firm Boffa Miskell Limited, based in the firm's Christchurch office. I have been employed by Boffa Miskell since 2010.
- 2 I hold a Bachelor of Resource and Environmental Planning from Massey University (1998). I am also a full member of the New Zealand Planning Institute, and a member of the Resource Management Law Association. I have 23 years' experience working in New Zealand and the United Kingdom, in statutory and environmental planning, including environmental effects assessment, policy analysis, and plan preparation and administration.
- 3 I have acted on resource management issues and projects for local and central government, and private clients, covering a broad spectrum of natural and physical resource management issues in urban, rural, coastal, and marine environments. I have extensive experience in the preparation of and assessment of resource consent applications and their associated assessment of effects under the Resource Management Act 1991 (**RMA**), including proposals involving management of large-scale construction activity, and interactions of activities with freshwater and indigenous biodiversity.

Code of conduct

- 4 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence has been prepared in accordance with it and I agree to comply with it. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Background

- 5 In this matter, I was engaged by the Dunedin City Council (**DCC**). I have been involved in the proposal to develop a landfill at Smooth Hill from the commencement of the concept design and consenting phase in early 2019.
- 6 I prepared the original assessment of environmental effects (**AEE**) included with the applications for resource consent lodged with Otago Regional Council (**ORC**) and DCC's regulatory arm in August 2020. I also prepared the updated AEE and draft proposed conditions and was one of the authors of the draft Landfill Management Plan framework (**LMP**) provided to the Councils in May 2021.

- 7 Following the close of submissions, I have prepared updated sets of the draft proposed conditions that have been provided to ORC and DCC.

Scope of evidence

- 8 I have been asked to prepare planning evidence evaluating the proposal against the relevant RMA statutory provisions and documents. My evidence draws on the evaluation provided in the applications, and the evidence of other experts for DCC.

- 9 My evidence includes:

- (a) A brief description of the proposal, noting any changes made since lodgment of the application;
- (b) The relevant RMA planning documents, the applications made under those documents, and the activity status of the proposal;
- (c) A brief description of aspects of the existing environment particularly relevant to the planning evaluation;
- (d) A summary of the environmental effects of the proposal under s104(1)(a) and (ab), drawing on the expert evidence;
- (e) An evaluation of the proposal against the provisions of the relevant planning documents under s104(1)(b) RMA;
- (f) An evaluation of any relevant s104(1)(c) RMA '*other matters*';
- (g) An evaluation of s105 and 107 RMA relating to discharges;
- (h) An evaluation against Part 2 of the RMA;
- (i) Response to matters raised submissions as they relate to planning matters which I consider are of particular significance for the decision maker; and
- (j) Discussion on the proposed draft conditions of consent and draft Landfill Management Plan.

- 10 Throughout my evidence, I respond to matters raised in the Council s42A reports, particularly in regard to the proposed conditions.

- 11 In preparing my evidence I have reviewed the following documents:

- (a) The Council requests for further information, and the applicant's responses to those requests;

- (b) The Council section 95 RMA notification reports;
 - (c) All submissions received on the application;
 - (d) The Council section 42A reports;
 - (e) The evidence statements of all witness advising DCC; and
 - (f) Relevant local, regional, and national planning documents.
- 12 I have visited the Smooth Hill site and environs twice during the project.
- 13 Where in my evidence I refer to the resource consent applications and/or AEE, this refers to the updated applications and AEE submitted in May 2021, unless otherwise stated.

Executive summary

- 14 The construction, operation, closure, and aftercare of a new class 1 landfill for the disposal of municipal and hazardous waste, and the associated road upgrades requires resource consents from ORC and DCC under the NES-FW, relevant regional plans, the Proposed 2GP. The applications all have a discretionary status for the purposes of assessment under section 104 of the RMA, noting that the applications were submitted prior to the NES-FW coming into force (and which ascribes a more stringent non-complying status).
- 15 On the basis of the expert evidence for DCC, and extensive changes made to the draft proposed conditions, I consider for the purposes of s104(1)(a) and (ab) RMA that the adverse effects of the proposal on the environment will be minor and acceptable, and further consider that the landfill will have positive effects with regard to supporting delivery of the wider Council Waste Futures programme and waste reduction and carbon emission targets, generating economic benefits, and enabling restoration of degraded wetland environments within the site.
- 16 I also consider for the purposes of s104(1)(b) RMA, that the resource consent applications will be consistent with the overall policy direction of the relevant planning documents, and in particular the higher order, contemporary, and settled directions of the NPS-FW, PROPS, and Proposed 2GP.
- 17 I consider appropriate regard has been given to s104(1)(c) RMA '*other matter's*' including alternative sites and methods, and consider the proposal broadly aligns with the NRMP. With changes to the proposed conditions in

regard to discharges, the proposal will also not be contrary to the s107 RMA restrictions on the granting of discharge permits (s107 RMA).

- 18 I consider the proposal will achieve the purpose and principles of Part II the RMA, as it accords with the enabling purpose in section 5 of the Act to promote the sustainable management of natural and physical resources, recognises and provides for relevant matters of national importance, has had regard to other relevant matters, and taken into account the principles of the Treaty of Waitangi.
- 19 I have addressed the submissions relevant to planning matters, and the s42A reports, and conclude that there are no reasons why the proposal could not be approved, subject to the updated proposed draft conditions.

~~*Assessment of DCC resource consent applications against the planning documents*~~

- 20 ~~The DCC s42A report considers the proposed road upgrades to be consistent with the relevant provisions of the 2006 District Plan and Proposed 2GP as they relate to the retention of indigenous vegetation, control of earthworks, protection of archaeological sites, protection of health and amenity from construction noise, maintenance of cultural values, and road safety and efficiency. The report considers that in all instances the proposal is consistent with the relevant provisions.~~
- 21 ~~I agree with the s42A report that the proposal is fully consistent with the relevant provisions of the Proposed 2GP, noting as earlier the 2006 District Plan is no longer relevant to the assessment of this application.~~

The proposal

- 22 The proposal involves the staged construction, operation, closure and aftercare of a class 1 landfill for the disposal of municipal and hazardous waste, and associated upgrades to McLaren Gully Road (including its intersection with State Highway 1) and Big Stone Road to the site. The landfill will have a capacity of approximately 2.94 million cubic metres of waste and an expected life at current Dunedin disposal rates of approximately 40 years. The landfill will receive waste only from commercial waste companies, or bulk loads in accordance with waste acceptance criteria and procedures. Waste will not be directly received from the public.
- 23 Section 5.0 of the AEE describes the proposal, and the concept design of the landfill and road upgrades are further described in the evidence of **Mr Coombe** and **Mr Whaley** respectively. The final form of the project is

expected to generally accord with that conceptually described, however flexibility is sought through the resource consents (and their conditions) for future detailed design of the landfill.

24 In summary, the proposal includes the following components:

Infrastructure

- (a) Earthworks to construct the required landfill shape including the base grade, with excavated soil being stockpiled in two stockpile areas for reuse over the life of the landfill;
- (b) A low permeability lining system above the base grade to prevent leachate seepage into the surrounding environment, including a groundwater collection system to manage groundwater beneath the liner;
- (c) A leachate collection system above the low permeability lining system, to remove and store leachate, prior to transport by tanker from the site for disposal. In the future leachate will likely be piped to the Council wastewater system at Brighton;¹
- (d) Stormwater control around the landfill and other areas of the site with appropriate treatment and attenuation before being discharged to watercourses within the site;
- (e) LFG collection system, and destruction of LFG by flaring;
- (f) Operational facilities including:
 - i. office and facilities for site staff;
 - ii. maintenance facilities for plant and equipment;
 - iii. weighbridge and vehicle wheel wash;
 - iv. water supplies for operational (non-potable) and staff (potable) requirements;
 - v. backup diesel generator to power leachate extraction pumps;
 - vi. Environmental monitoring infrastructure, including groundwater and LFG wells;

¹ No consents are being sought for any leachate pipeline to Brighton as part of these applications.

- (g) Landscape perimeter planting established as part of the initial development works, and restoration of the swamp wetland within the site;
- (h) Upgrade and sealing of McLaren Gully Road, including its intersection with State Highway 1, and Big Stone Road, constructed as part of the initial development works; and
- (i) Landfill site access and a separate emergency access from Big Stone Road, and permanent and temporary internal roads required to access the various parts of the site.

Operations

- (j) Vehicle movements to and from the site, and within the site. Heavy vehicles will access the landfill via SH1, McLaren Gully Road, and Big Stone Road. The landfill will be open to waste deliveries on Monday to Saturday 8.00am - 5.30pm, and Sunday 9.00am - 5.30pm. The landfill will be closed, Easter Friday, Christmas Day, New Year's Day, and the morning of Anzac Day (until 1pm);² and
- (k) Staged and progressive filling of the landfill, including application of daily and intermediate cover. Incoming waste will be weighed and inspected for compliance with the landfill waste acceptance criteria. The landfill will accept municipal solid waste (**MSW**), and potentially hazardous waste that meets the leachability limits in the Ministry for the Environment Module 2: Hazardous Waste Guidelines (2004) - Class A. Food and garden organic waste streams will be collected and processed separately to minimise disposal of this material at Smooth Hill. Furthermore, to the extent practicable residual putrescible waste will be removed from the general waste stream prior to transport and disposal of waste at Smooth Hill.

Closure and Aftercare

- (l) Closure of the landfill including placing the final capping layer on completion of each stage, establishing final landscaping, and removing/modifying infrastructure for the aftercare period. This includes recontouring of the soil stockpile areas, revegetation, and disestablishing any temporary stormwater systems; and

² The landfill operator may commence operations 1 hour before and up to 1.5 hours after the opening hours to prepare for waste delivery in the morning and to close off the works at the end of the day.

- (m) Aftercare of the landfill including ongoing operation and maintenance of the LFG, leachate, and permanent site stormwater systems; maintenance of the landfill cap; maintenance of remaining site infrastructure; and ongoing environmental monitoring, reporting, and event response, as required by the resource consents.
- 25 As described in section 1.0 the AEE, following lodgement of the original applications and AEE in August 2020, the concept design of the landfill and road upgrades was reviewed in light of the Council requests for further information, the directions of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (**NES-FW**), and National Policy Statement for Freshwater (**NPS-FW**) for management of '*natural wetlands*', and continued review of the quantum of the likely waste stream for the landfill.
- 26 Compared with the original proposal as lodged, the updated proposal moves the landfill and associated infrastructure outside of the '*natural wetlands*' within the site, resulting in a reduction in the landfill footprint from 44.5 ha to 18.6 ha. The finished maximum height over the reduced footprint remains unchanged at RL149 m. Refinements to the design of the upgrades to McLaren Gully Road also resulted in the road being substantially moved outside of roadside '*natural wetlands*' with the exception of a small area (~16.5m²). As described in the evidence of **Mr Whaley**, further changes have now been made to the road design that move the upgraded road fully outside these wetlands.
- 27 As described in section 5.15 of the AEE, the construction, operation, maintenance, closure, and aftercare of the landfill will occur in accordance with a comprehensive LMP prepared in accordance with the WasteMINZ WasteMINZ Technical Guidelines for Disposal to Land (August 2018) (**WasteMINZ guidelines**). The LMP is essentially a construction, operational, and environmental manual for the landfill. Its purpose is to document the site-specific procedures, including monitoring and contingency actions to be implemented to ensure the landfill achieves the operational and environmental objectives and conditions set out in the resource consents, to ensure the potential for adverse environmental effects is minimised.
- 28 It is common practice to prepare a full LMP as part of detailed design of the landfill, and before construction commences. This enables the LMP procedures to align with the detailed design, landfill developer/operator requirements, and the conditions of the approved resource consents. The LMP is a 'living' document and will be regularly reviewed and updated over the life of the landfill to ensure that management practices result in

compliance with the conditions of resource consent, and to respond to any changes in waste demands, best practice design and management, regulatory requirements, and any environmental changes.

- 29 A draft LMP was provided to the Councils in May 2021 as part of the updated applications. The draft LMP comprises a structure and indicative content recognising that finalisation of the plan is contingent on detailed landfill design and the specific needs of a landfill developer/operator. It provides a starting point for full completion of the final LMP before construction commences.
- 30 The framework includes provision for the following sections:
- (a) Introduction – the plan purpose; requirements, structure; schedule of resource consents held and designation; relevant documents and guidelines; and procedures for plan review;
 - (b) Site management – description of the site; landfill management roles and responsibilities; training requirements for specialist roles; health and safety requirements; and procedures for communication with the community and receiving and responding to complaints;
 - (c) Landfill construction – general description of the design; and the parameters and procedures for detailed design and construction of the landfill;
 - (d) Landfill operation – daily procedures for operation of the landfill, including for waste acceptance;
 - (e) Landfill closure and aftercare – procedures for site closure, rehabilitation and ongoing aftercare; and
 - (f) Monitoring, records, and reporting – details of the monitoring and reporting requirements that will be undertaken.
- 31 The above structure also incorporates additional management plans which address specific management issues. These include a Receiving Environment Water Monitoring Plan, Eastern Falcon Management Plan, Lizard Management Plan, and Vegetation Restoration Management Plan, Freshwater and Wetland Monitoring and Management Plan, Landfill Operational Bird Management Plan, Landscape Management Plan, and Fire Preparedness and Response Plan which will be attached as appendices to the LMP. These management plans will be referenced throughout the LMP to ensure they form part of the overall integrated suite of procedures for the management of the landfill.

- 32 The draft Landfill Operational Bird Management, Eastern Falcon Management, Lizard Management, and Vegetation Restoration Management Plans were attached to the draft LMP. These plans were drafted in full in direct response to the ORC's request for further information which sought that these draft management plans be prepared. Also as requested by ORC, greater detail of procedures for the management of odour and dust was included in the draft LMP.
- 33 The draft proposed ORC conditions included as **Attachment 2** to my evidence, provide direction on the preparation, implementation, and review of the LMP and associated plans, including objectives to guide the development of the procedures, and against which the success of the plans can be measured. As discussed later in my evidence aspects of the draft LMP have been updated which is included as **Attachment 4** to my evidence.

Applications made to Otago Regional Council

- 34 I agree with the ORC s42A report that resource consents are required for the project under the following planning documents:³
- (a) Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (**NES-FW**) which controls activities affecting '*natural wetlands*'.⁴ The regulations came into force on the 3rd of September 2020 after the resource consent applications were lodged.
 - (b) Regional Plan: Waste for Otago (**RP-Waste**), which controls the discharge of contaminants to land, air, and water associated with landfills and facilities for hazardous wastes. The Waste Plan is currently subject to proposed Plan Change 1, which does not change the rules relevant to the proposal.
 - (c) Regional Plan: Water for Otago (**RP-Water**), which controls the take, use, damming, and diversion of water, and discharges to land and water not controlled by the Waste Plan. The Water Plan is currently subject to proposed Plan Change 8, which does not change rules relevant to the proposal.

³ Section 5, ORC s42A report

⁴ As described in the evidence of Dr Morris, the swamp wetland at the bottom of the site, valley floor marsh wetland, and along the margins of McLaren Gully Road are '*natural wetlands*' under the NPS-FW

- 35 As described in the evidence of **Mr Ingles**, and **Dr Blakely**, the watercourses that exist within the site upstream of the swamp wetland only covey ephemeral overland flows of water during prolonged rainfall, have no clearly defined bed, have a general absence of natural stream bed substrates, and do not provide any habitat for freshwater macroinvertebrate or fish fauna. Accordingly, I agree with the ORC s42A report that they are not ‘*rivers*’ as defined by the RMA, NES-FW, or RP-Water in determining the resource consents required for the project.⁵
- 36 I agree with the description of the NES-FW and regional rules triggered by the project in the ORC s42A report ⁶. The table below summarises my understanding of the consents required and applied for under the above planning documents, their activity status, and the duration of consent sought. No additional consents are required as a result of the changes to the design of the upgrades to McLaren Gully Road, and land use consent within wetlands, and associated alteration of the bed is no longer required.⁷

Consent and Duration Applied for	Relevant Documents and Rules	Activity Status
Discharge consent – to discharge waste and hazardous waste onto land within the landfill, and landfill leachate onto land within the landfill that may result in contaminants entering groundwater. Consent duration of 35 years.	RP-Waste – rules 6.6.1 and 7.6.1.	Discretionary.
Water permit – to take up to 87m ³ /day and 1600m ³ /year of groundwater from the landfill groundwater collection system and use up to 50m ³ /day for non-potable water supply for the landfill facilities. Consent duration of 6 years. ⁸	RP-Water – rule 12.2.4.	Discretionary.
	NES-FW – reg 52.	Non-complying.

⁵ Section 6.1.4 ORC s42A report.

⁶ Section 5 ORC s42A report.

⁷ Land use consent was previously required under Water Plan – rules 13.1.2.1, 13.2.3.1, 13.5.3.1, and NES-FW – regulations 52, 53, 54, and 57.

⁸ Consistent with policy 10A.2.2 of Plan Change 7 to the Water Plan confirmed by the Environment Court on 5 March 2022.

Water permit – to divert surface water within the Ōtokia Creek catchment for land drainage of the landfill site. Consent duration of 35 years.	RP-Water – rule 12.3.4.	Discretionary.
	NES-FW – reg 52.	Non-complying.
Water permit – to dam surface water via the attenuation basin dam. Consent duration of 35 years.	RP-Water – rule 12.3.4.	Discretionary.
	NES-FW – reg 52.	Non-complying
Discharge permit – to discharge stormwater, collected groundwater, and contaminants to the Ōtokia Creek from the attenuation basin, sediment retention ponds, and from the site to an unnamed tributary of the Ōtokia Creek. Consent duration of 35 years.	RP-Water – rule 12.B.4.1.	Discretionary.
	NES-FW – reg 54.	Non-complying
Discharge permit – to discharge landfill gas, flared exhaust gases, dust, and odour into air from the landfill. Consent duration of 35 years.	RP-Waste – rules 6.6.1 and 7.6.1.	Discretionary.
Land use consent – to clear vegetation within 10m and undertake earthworks within 100m and 10m of natural wetlands for construction of the landfill and the upgrade of McLaren Gully Road. Unlimited consent duration.	NES-FW – reg 52. NES-FW – reg 54.	Non-complying.
Land use consent – to clear vegetation within and within 10m of natural wetlands for natural wetland restoration. Unlimited consent duration.	NES-FW – reg 39.	Restricted discretionary.

37 The applications were lodged after the NES-FW came into effect. I agree with the s42A report that consent for certain activities is still required under the NES-FW rules, and that where those result in a more stringent activity

status, s88A of the RMA provides that the activity status remains unchanged from when the applications was lodged. Accordingly, while as above the NES-FW rules prescribe a non-complying activity status, the resource consents applied for from ORC overall remain a discretionary activity under section 104 and 104B of the RMA.

- 38 While they currently have no effect, I note the Ministry for the Environment is considering changes to the NES-FW that would provide a discretionary activity pathway for landfills (among other activities) where they affect wetlands, due to their national and/or regional significance and/or their functional need for them to be situated in particular geographical locations.⁹ Applications for consent would still need to demonstrate how the effects management hierarchy set out in the NPS-FW will be applied before consent can be granted. This hierarchy requires adverse effects are avoided where practicable, and where they cannot be avoided, they are minimised, remedied, offset, or compensated.
- 39 A series of piezometers ~~or water levels loggers~~ will need to be installed within and adjacent to wetlands as a consequence of proposed changes to hydrological monitoring outlined in **Mr Kirk's** evidence. No resource consents for these monitoring instruments have been applied for to date and would need to be applied for separately where required. I note that any associated vegetation clearance and earthworks for their installation would be classified as a restricted discretionary activity under the NES-FW.¹⁰
- 40 The ORC s42A report noted that a specific lapse date under s125 of the RMA for the consents was not requested.¹¹ However, I note a 10-year lapse date was requested for all resource consents.¹²

Applications to Dunedin City Council

- 41 The area of the site within which the landfill is proposed has been designated in the District Plan for *'proposed landfilling and associated refuse processing operations and activities'* since 1996. The designation has been 'rolled over' into the Proposed Dunedin City District Plan.¹³ The Council has recently amended the designation under section 181(3) of the

⁹ Managing our Wetlands – Discussion Document on Proposed Changes to the Wetland Regulations, Ministry for the Environment, September 2021.

¹⁰ Regulation 42 NES-FW – Construction of wetland utility structures.

¹¹ Section 11.2 ORC s42A report.

¹² Page 77, Assessment of Environmental Effects for Updated Design.

¹³ Designation D659 Proposed Smooth Hill Landfill, Proposed 2GP.

RMA to encompass a stopped road running through the site into the designation.

- 42 As a result of the designation, no resource consents are required from DCC for the construction and operation of the landfill within the site. An outline plan of works is instead required to be submitted to DCC prior to development commencing under section 176A of the RMA.¹⁴ This will be submitted following the completion of detailed landfill design, and in a way which aligns with the conditions of the ORC resource consents.
- 43 I agree with the DCC s42A report that resource consents are required for the project under the Proposed Dunedin City District Plan (**Proposed 2GP**) which controls the subdivision, use, and development of land. However, given the road upgrades have been moved fully outside of the roadside wetland areas, I consider the Operative Dunedin City District Plan (**2006 District Plan**) is no longer relevant to the applications due to the indigenous vegetation clearance provisions of that plan (which remain in effect) no longer being triggered by the road upgrades.
- 44 I agree with the description of the district rules triggered by the road upgrades and the consents sought in the DCC s42A report, with the exception that rules relating to indigenous vegetation clearance are no longer triggered as noted above.¹⁵ The table below summarises my understanding of the consents required and applied for, and their activity status.

Consent applied for	Relevant Document and Rule	Activity Status
Land use consent – to upgrade McLaren Gully Road, Big Stone Road, and SH1 outside of the existing formed road corridor or legal road.	Proposed 2GP – rule 6.3.2.2.	Discretionary.
Land use consent – to undertake earthworks associated with the upgrade of McLaren Gully Road, Big Stone Road, and SH1.	Proposed 2GP – rule 8A.3.2.	Restricted discretionary.

¹⁴ Section 176A RMA.

¹⁵ Section 2.1 ORC s42A report.

- 45 Based on the above, the resource consents applied for from DCC are to be assessed as a discretionary activity under sections 104 and 104B of the RMA.
- 46 A 10-year lapse date was requested for the resource consents, pursuant to section 125(a) of the RMA.

The site and existing environment

- 47 The application site and existing environment are described in section 4.0 of the AEE, and specific aspects are further described in the evidence of other experts for DCC.
- 48 I note however the following aspects of the existing environment are particularly relevant to the evaluation of the proposal against the RMA and relevant planning documents later in my evidence:
- (a) As described in the evidence of **Dr Morris**, the interconnected area of gullies and wetland habitat comprising largely indigenous vegetation types within and downstream of the landfill site, plantation forestry cutover areas within the site, and areas of rank grassland that fringe the cutover area within the site and along the roadsides of McLaren Gully Road and Big Stone Road comprise significant indigenous vegetation and/or significant habitats under section 6(c) of the RMA, and relevant planning documents.
 - (b) As described in the evidence of **Mr Girvan**, the site and surrounding area does not comprise an outstanding natural landscape or feature, or significant landscape for the purposes of sections 6(c) or 7(c) of the RMA.
 - (c) As described in the evidence of **Ms Lawrence**, there are seven archaeological sites within the project area relating to nineteenth century agricultural and pastoral activities, including two sites (I45/71 and I45/72) within the designation area, but outside the landfill footprint.
 - (d) Dunedin International Airport and State Highway 1 comprise '*nationally and regionally significant infrastructure*' defined by the Partially Operative Otago Regional Policy Statement (**PORPS**),¹⁶ and the airport and SH1 are defined as '*nationally significant*

¹⁶ Policy 4.3.2, ORPS.

infrastructure’ under the Proposed Otago Regional Policy Statement (**Proposed RPS**).¹⁷

- 49 Activities that can be carried out as of right or with respect to future resource consents that have been granted (where it is likely they will be given effect to) form part of the existing and reasonably foreseeable future environment upon which effects of the proposal should be assessed.
- 50 In this regard, I note farming and forestry activities in the surrounding area, and vehicle movements on public roads are able to occur as of right as permitted activities under the Proposed 2GP. Additional residential activities can also establish within the surrounding area as a permitted activity under the Proposed 2GP rural zoning where they provide a minimum 15 ha site to establish a residential activity, or 80 ha site for a second residential activity on a site.¹⁸ New residential buildings are required to be located at least 150m from existing, lawfully established landfills.

Environmental effects (s104(1)(a) and (ab) RMA)

- 51 An assessment of environmental effects under section 104(1)(a) of the RMA is contained in section 8.0 of the AEE. Rather than repeating that assessment, here I summarise the conclusions reached in the expert evidence for DCC on the environmental effects and which respond to the remaining issues raised in the s42A reports, and submissions.
- 52 This summary focusses on the environmental effects that fall within the scope of the resource consents that have been applied for. In that regard, I note the following:
- (a) A number of the relevant land use effects including those relating to land stability, terrestrial ecology, landscape and visual amenity, archaeology, cultural values, transportation, aviation safety, noise, and community effects will also be addressed through the outline plan of works process. As noted above an outline plan will be submitted following the completion of detailed landfill design, and in a way which aligns with the conditions of the DCC resource consents.
 - (b) There are a number of activities permitted under the NES-FW, and regional and district plans and which therefore fall within the *‘permitted baseline’* for which the RMA enables decision makers to

¹⁷ Part 1 Introduction and General Provisions – Definitions, PRPS.

¹⁸ Rule 16.5.2, Proposed 2GP.

disregard any adverse effect.¹⁹ These include the discharge of stormwater from the road upgrades; discharge of dust to air from the construction of the road upgrades; drilling of land outside of wetlands to install groundwater and LFG monitoring bores, and LFG collection system. Effects from these activities may therefore be disregarded.

Waste management effects

- 53 The evidence of **Ms Graham**, CEO for DCC, and **Mr Henderson**, DCC's Group Manager Waste and Environment Solutions, describes the Council's Waste Future's programme, its decision-making processes related to developing a landfill at Smooth Hill relative to alternatives, and the nature of residual waste to be accepted at the landfill.
- 54 The proposal to construct and operate a landfill at Smooth Hill sits within the context of the wider Waste Futures programme. This programme aims to ensure effective reduction and management of solid waste; and to identify and procure the best solid waste solution for Dunedin to enable the city to move towards a zero-waste future and a more circular economy. In so doing, it will also support the Council's carbon emission reduction targets.
- 55 The Council is committed to reducing waste that is sent to landfill, and to reducing associated carbon emissions from waste. Mr Henderson in particular notes that food and garden organic waste streams will be collected and processed separately to minimise disposal of this material at Smooth Hill, and that to the extent practicable residual putrescible waste will be removed prior to transport and disposal of general waste at the landfill.
- 56 There has been an extensive investigation of potential sites, and consideration of a range of alternative options for disposal of residual waste including extension of Green Island landfill, out-of-district disposal, and incineration. None of these options are preferred due to for technical constraints and consenting challenges (Green Island); lack of control over the waste cycle, and cost increase exposure (out-of-district); and high capital cost, cultural acceptability; and ash disposal (incineration). I further discuss the assessment of alternatives later in my evidence in considering section s104(1)(c) RMA '*other matters*'.

¹⁹ Section 104(2) RMA.

Economic and social effects

- 57 The economic benefits of the landfill for Dunedin City are described in the evidence of **Mr Akehurst**. The landfill will provide the opportunity to cater for commercial volumes of waste and therefore help fund investment into diversion and processing facilities required to achieve a circular waste economy. The landfill is expected to generate a net additional contribution to GDP of \$23m in net present value over its anticipated consented lifetime, with the potential for this to increase to almost \$50m in a 50:50 joint venture with a suitably qualified private sector partner. The landfill will sustain an additional 813 employment job years of which 616 occur within the first 10 years.
- 58 The evidence of **Ms Graham** describes how the Council has given a significant amount of consideration as to how best alleviate community concerns and address any potential perceived social and wellbeing impacts of the landfill. This could include establishment of communication strategies/plans to ensure the local community is provided with information and can voice their interests and concerns over the life of the landfill. It could also include Council support for pre-existing or new community initiatives that contribute to the wellbeing of the local community. The Council intends to engage with the community to gather ideas that best meet their needs and develop tangible initiatives to be delivered to provide a community benefit.

Effects on land stability, groundwater, and surface water

- 59 The seismic setting of the landfill has been described by **Professor Stirling**, and the stability of the landfill in the context of the interaction of geotechnical ground conditions and the landfill design is described in the evidence of **Ms Webb**. The underlying Henley Breccia material will result in kinematically stable landfill slopes based on the proposed design and is a suitable material for re-use as engineered fill for the construction of the landfill slopes and toe bund. Modelling of the toe bund, against which the landfill waste is toe buttressed, indicates the bund will be stable under static conditions. Based on the seismicity of the site, during a seismic event, the modelling indicates deformation of the toe bund of 2 – 14mm will occur. This will be further considered during detailed design, as will confirmation of the suitability of site won loess soils for use in the final landfill liner system.
- 60 Ms Webb considers that in response to the ORC peer review, s42A report, and submissions, that additional geotechnical investigations should be carried out as part of detailed design to generate a robust geotechnical

ground model; a Site Specific Probabilistic Seismic Hazard Assessment (SSSHA) should be undertaken to ensure seismic risks are addressed; and quantitative limit equilibrium slope stability assessment should be undertaken to demonstrate the short and long-term stability of all cut and fill slopes of the landform. These measures have been adopted in the draft proposed ORC conditions (**Attachment 2**). This set of draft conditions includes all changes requested by the ORC's geotechnical peer reviewer Mr Stiles.

- 61 Ms Webb notes any changes needing to be made to the design as a result of the SSSHA and slope stability analysis are likely to fall within the envelope of the current design, based on the current design inputs. I note the ORC s42A report expresses a preference for a mechanism to be built into the consent conditions to provide more certainty as to what is and what isn't being authorised by the consent. Ms Webb considers having a condition would be limiting for the landfill designer during detailed design. Given the above, I do not propose a condition as sought by ORC. As is common practice, any change to the design that is not in general accordance with the consent, would need to obtain either a change to the consent conditions under s127 RMA, or a new consent.
- 62 The concept design of the proposed landfill is described in the evidence of **Mr Coombe**. The sites' location and landform are beneficial for designing a landfill. The landfill concept has been designed to meet the best practice design standards of the WasteMINZ guidelines and incorporates robust environmental controls including structural containment. These include liner and leachate collection systems, LFG collection and destruction systems, and stormwater management, to avoid and mitigate adverse environmental effects, including from potential major environmental occurrences (e.g. storm rainfall events).
- 63 Mr Coombe's evidence considers in response to issues raised by ORC peer review, and submissions, that a peer review panel should be established to review the design, construction, and operation of the landfill; the landfill liner should be subject to construction quality assurance (CQA), the adequacy of leachate storage facilities should be confirmed as part of detailed design, and that waste delivery trucks should be covered. These measures have been adopted in the draft proposed ORC conditions (**Attachment 2**).
- 64 The effects of the landfill on groundwater and surface water levels, flow, and quality have been described in the evidence of **Mr Kirk** and **Mr Ingles**. Reduction in shallow groundwater flows and levels and reduced discharge to the connected Ōtokia Creek will be mitigated by the moderation of stormwater flows and infiltration to ground from the attenuation basin. This

infiltration is expected to provide a more consistent source of recharge to the shallow groundwater system, and baseflow for the Ōtokia Creek.

- 65 Reductions in surface runoff will be from the site will be less than would be expected to occur due to annual climatic variation and less than would occur as a result of the reforestation of the area, and hydrological changes would not lead to loss of wetland extent at the site. The attenuation effect of the wetland systems and the attenuation basin will mitigate to a significant extent any impact on low flows or the extent and duration of no flow further downstream from the site.
- 66 Leachate generation and leakage will be minimised by the design and operation of the landfill. While some leachate leakage is expected (up to a peak of 1.4m³/year), the predicted flux for the majority of water quality parameters within shallow groundwater will reduce with landfill development. Increases in flux of lead, Dissolved Reactive Phosphorus, and chromium are not predicted to exceed water quality criteria and increases in iron and Total Kjeldahl Nitrogen are not considered to be at concentrations of concern in the context of the existing environment. The flux of total inorganic nitrogen is estimated to reduce within the shallow groundwater system in comparison to existing conditions following placement of the landfill.
- 67 Diversion of stormwater runoff and minimising exposed areas of landfilling will avoid contamination of stormwater. Any stormwater that comes into contact with waste will be treated as leachate and collected by the leachate collection system. This along with stormwater controls and monitoring both on and off site will ensure leachate and other contaminant discharges from site are minimised and that effects immediately downstream will be less than minor and undetectable further downstream.
- 68 Monitoring during operation and after closure of the landfill will be undertaken at various locations to assess whether water is impacted by leachate leakage and confirm the effectiveness of sediment controls, triggering action where thresholds are exceeded. In addition, hydrological monitoring is proposed within and adjacent to wetlands. Considerable changes have been made to the draft proposed ORC conditions (**Attachment 2**). The draft conditions include amendments sought by the ORC's peer reviewers Mr Cochrane and Ms Lochhead, notably the addition of hydrological monitoring within the downstream wetlands.
- 69 Changes to the conditions include (among other refinements) requirements for three additional groundwater monitoring wells, and a network of six automated hydrological monitoring piezometers within and adjoining the

wetland. The groundwater baseline monitoring period has also been extended from 12 to 36 months. Following completion of baseline monitoring, including comparison of results with rainfall data, the site conceptual model will be confirmed and a Receiving Waters Environment Management Plan developed setting out the long-term monitoring programme, which is to include monitoring trigger levels established in accordance with requirements. Additional requirements for continuous monitoring have been incorporated during operation. Perfluorooctanesulfonic acid (PFOS), Total Organic Carbon, Total Kjeldahl Nitrogen, and Total Phosphorus have also been added as contaminants to be monitored.

- 70 The ORC s42A report considers there is uncertainty regarding the risk of contamination of the shallow groundwater system, and the ability of the proposed draft conditions of consent to ensure adverse effects on groundwater and surface water quality will be avoided, remedied, and mitigated. Acknowledging that concern, I consider that on the basis of the evidence of Mr Kirk and Mr Ingles in response, and changes to the proposed draft conditions, that effects on groundwater and surface water quality have been appropriately addressed.

LFG and fire effects

- 71 Landfill gas (**LFG**) related effects are described in the evidence of **Mr Welch**. Installation and operation of an LFG collection and destruction system in accordance with the WasteMINZ guidelines and National Environmental Standards for Air Quality (**NES-AQ**),²⁰ will ensure risks to on-site and off-site receptors are low. Monitoring during operating and after closure of the landfill will be undertaken at a perimeter landfill gas monitoring bore network and other locations to confirm the effectiveness of LFG management, triggering action where thresholds are exceeded.
- 72 Landfill fire related effects are described in the evidence of **Mr Dixon** and **Mr de Mar**. Proposed controls to reduce the risk of surface and subsurface landfill fires, and fire detection and on-site fire suppression capability are proposed. In addition, changes to the site design, including clearance of woody vegetation from the landfill footprint, fire breaks, a second emergency access point to the site, and use of less flammable tree species in the landscape screening will ensure the risk of fire escaping beyond the site is adequately managed. With these measures, fire risks will be managed to acceptable levels.

²⁰ Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

- 73 Based on the evidence of Mr Welch, Mr Dixon, and Mr de Mar, changes have been made to the draft proposed ORC conditions in regard to management of LFG and fire risk (**Attachment 2**). This includes (among other refinements) additional requirements for completion of a detailed Landfill Gas Risk Assessment (LFGRA) prior to construction; development of monitoring trigger levels for a specific list of LFG monitoring parameters; monitoring for landfill gas escape within areas of immediate cover, buildings, and sub-surface pits; and development of a Fire Preparedness and Response Plan incorporating fire prevention, detection, and response measures for inclusion in the final LMP. The draft LMP has also been updated to include reference to this plan (**Attachment 4**).

Effects on air quality

- 74 The effects of the landfill on air quality from odour, dust, and flared LFG emissions are described in the evidence of **Mr Stacey**. Considering the results of a Frequency, Intensity, Duration, Offensiveness, Location (**FIDOL**) assessment and odour dispersion modelling, the implementation of the proposed odour mitigation measures will ensure nearby receptors are unlikely to experience odour effects that are offensive or objectionable.
- 75 Given the distance from the site to sensitive receptors, implementation of the dust mitigation measures in the draft LMP will ensure offsite receptors are unlikely to experience adverse dust nuisance effects. Furthermore, predicted offsite concentrations of air pollutants associated with the LFG flare are well below the relevant assessment criteria, and therefore flare emissions will have limited potential to cause adverse effects beyond the site boundary. Negligible impacts are anticipated from vehicle emissions and diesel generator emissions.
- 76 Mr Stacey's evidence considers in response to issues raised by the ORC peer review, s42A report, and submissions, that odour and dust should be managed to ensure it is not '*noxious, dangerous, offensive, or objectionable odour to the extent that it causes an adverse effect at or beyond the boundary of the site*'; additional measures for managing 'highly odorous waste' should be implemented; and the LFG combustion flare should meet specified standards. These measures have been adopted in the draft proposed ORC conditions (**Attachment 2**). This includes all changes requested by the ORC's air quality peer reviewer Mr Chilton. The draft LMP has also been updated, including to capture additional odour mitigation measures (**Attachment 4**).

Effects on terrestrial and freshwater ecology

- 77 The effects of the landfill and road upgrades on terrestrial vegetation and wetlands has been described in the evidence of **Dr Morris**. The updated design results in no areas of indigenous vegetation or wetlands being directly affected, and the degree of indirect hydrological impacts described in the evidence of Mr Kirk and Mr Ingles is expected to result in (at worst) low level ecological impacts to the modified swamp wetland without mitigation. No measurable adverse effects on the valley floor marsh wetland or roadside wetlands are expected to arise.
- 78 While it is not expected that the degree of hydrological impacts would lead to any loss of wetland extent or values in terms of indigenous wetland plant species, baseline monitoring and upfront restoration actions in the Vegetation Restoration Management Plan are proposed that improve the condition of indigenous wetland plant species relative to the current state. This results in a net gain and increases their resilience to water levels changes that may occur.
- 79 The effects of the landfill on freshwater ecology have been described in the evidence of **Dr Blakely**. The degree of indirect hydrological impacts described in the evidence of Mr Ingles, is not expected to result in any discernible change on the flow regime within the defined channel of the valley floor marsh wetland. Consequently, no changes in freshwater habitat are expected. Baseline freshwater monitoring alongside the hydrological monitoring within the wetland systems is however proposed. This would be in addition to responses detailed in the Freshwater Monitoring and Management Plan that will ensure that any unexpected stream habitat loss is quantified, and appropriately remedied or otherwise offset and compensated in accordance with the effects management hierarchy.
- 80 The effects of the landfill on avifauna are described in the evidence of **Ms Sievwright**. All effects on avifauna within the landfill site area are expected to be very low without mitigation, with the exception that potential construction-associated disturbance, displacement, and mortality of nesting eastern falcon are expected to be moderate without mitigation. Measures proposed to be implemented in the Falcon Management Plan are expected to result in a low level of effects on falcons, meaning that offsetting or compensation measures are not expected to be required.
- 81 The effects of the landfill and road upgrades on lizards are described in the evidence **Ms King**. Measures proposed to be implemented in the Lizard Management Plan, including salvage, habitat restoration, and predator

control are expected to result in a negligible level of effects on lizards, and offsetting or compensation measures are not expected to be required.

- 82 In recognition of the evidence of Dr Morris, Dr Blakely, Ms Sievwright, and Ms King, changes have been made to the draft proposed ORC conditions (**Attachment 2**). This includes (among other refinements) baseline wetland ecology and freshwater monitoring (coupled with the hydrological monitoring) to inform the development of the Vegetation Restoration and Freshwater and Wetland Monitoring Management Plans; greater prescriptiveness of the content of the Freshwater and Wetland Monitoring Management Plan to ensure any adverse effects on freshwater values identified through monitoring are effectively remedied and otherwise managed; and provision for applying appropriate ecological offsetting/compensation methodologies to ensure any residual effects (where they occur) are offset and compensated through the ecological management plans to ensure no net loss in ecological values.
- 83 The ORC s42A report considers there is considerable uncertainty regarding the degree of hydrological change that may occur which could be managed through consent conditions requiring hydrological and ecological monitoring, and adaptive management responses. The report also considers there is a low degree of confidence in the magnitude and level of ecological effects, and whether no net loss in ecological values will be achieved. Acknowledging that concern, I consider that on the basis of the evidence of Dr Morris, Dr Blakely, Ms Sievwright, and Ms King in response, including changes to the draft proposed conditions of consent, that effects on ecological values are appropriately addressed.

Effects on landscape character, visual amenity, and natural character

- 84 The effects of the landfill and road upgrades on landscape character, visual amenity, and natural character are described in the evidence of **Mr Girvan**. The project area is not part of any outstanding or significant landscape or feature for the purposes of section 6s and 7 of the RMA. The undulating rural hill country and existing exotic forestry will enclose, and largely conceal the landfill, with views being limited to transient views from adjacent roads, and partial distant views from three dwellings along Big Stone Road. Indigenous screen planting and areas of faster growing exotic vegetation in key areas will result in landscape and visual effects being low. Waterbodies and wetlands within and downstream of the landfill express lower levels of naturalness and proposed ecological restoration will result in beneficial effects on natural character.

- 85 Recognising Mr Girvan's evidence, and in response to the ORC s42A report, changes to the draft proposed ORC conditions now require the implementation and maintenance of the proposed screen planting (**Attachment 2**).

Effects on archaeological values

- 86 The effects of the landfill and road upgrades on archaeological values are addressed in the evidence of **Ms Lawrence**. Seven archaeological sites have been identified in the project area relating to nineteenth century agricultural/pastoral activity which has low-medium, or medium archaeological values. There is further potential for unrecorded sites to be encountered during development.
- 87 Effects on recorded and unrecorded sites will be managed through proposed monitoring, discovery protocols, and recording requirements, and the authority process under the Heritage New Zealand Pouhere Taonga Act 2014. Furthermore sites (I45/71 and I45/72) within the site will be retained and protected. Changes have been made to the draft proposed ORC and DCC conditions to better capture the intended processes to ensure protection of archaeological values during the works (**Attachments 2 and 3**).

Effects on cultural values

- 88 The effects of the landfill and road upgrades on cultural values are addressed in the Cultural Impact Assessment (CIA) prepared by **Aukaha** on behalf of Te Rūnanga o Ōtākou. Potential impacts on cultural values identified in the CIA, have been addressed through design measures, and operational, and monitoring practices that will persist beyond the 40-year operational life of the landfill, to ensure effects on the mauri and whakapapa of the receiving environment are avoided to the fullest extent possible. Enhancement of wetland/riparian habitat, and pest management are also proposed to offset effects on mauri and whakapapa and restore mahika kai values.
- 89 The key messages and recommendations in the CIA have been adopted in the draft proposed ORC conditions (**Attachment 2**). Ongoing engagement with Te Rūnanga o Ōtākou is proposed as part of these conditions, including input into the detailed management and monitoring measures in the LMP and associated ecological management plans that will support recognition of mana whenua, and exercise of rakatirataka and kaitiakitaka.

- 90 The ORC s42A report considers there is uncertainty regarding the degree of potential adverse effects on wai māori and native fauna, and the ability of the conditions to ensure that these are appropriately avoided, remedied, mitigated, offset or compensated. Acknowledging that concern, I consider on the basis of the terrestrial and freshwater ecology evidence of the applicant in response, including changes to the draft proposed conditions, that uncertainty with regard to effects on wai māori and native fauna has been appropriately addressed.

Transportation effects

- 91 The design of proposed road upgrades, and the transportation effects of the proposal are discussed in the evidence of **Mr Whaley**. Both McLaren Gully Road and Big Stone Road have low existing traffic flows, and the anticipated traffic demands are expected to be readily accommodated. The planned roading improvements have been designed to ensure the safety of the road network, including along those sections of McLaren Gully Road which have been narrowed to avoid roadside wetlands.
- 92 The effects of the landfill on aviation safety from the attraction of birds is described in the evidence of **Mr Shaw**. Removal of food and garden organic waste, and to the extent practicable residual putrescible waste, from the waste stream described in the evidence of **Mr Henderson** will greatly reduce risk of the landfill attracting birds. Implementation of operational procedures and bird control measures in the Landfill Operational Bird Management Plan will ensure bird numbers are kept to very low levels. This coupled with reduction of the existing southern black backed gull population at Green Island landfill and breeding sites prior to the opening of Smooth Hill, could result in a net reduction in aviation risk.
- 93 Following the close of submissions, the applicant has conferred with DIAL on the draft proposed conditions relating to bird management. As a result, changes have been made to the draft proposed ORC conditions (**Attachment 2**) including incorporating requirements for removal of food and residual putrescible waste; baseline bird monitoring; greater prescriptiveness of the content of the Landfill Operational Bird Management Plan; maintenance of bird registers during operation; and adoption of escalating management actions where bird trigger levels are exceeded. Requirements to establish a Bird Management Operational Group to consider escalation of management actions and review the effectiveness of the management plan and update it (based on an annual risk assessment) have also been added. At the time of finalising my evidence, DIAL was considering these amendments.

- 94 The ORC s42A report considers risk of bird strike has not been adequately assessed, and the proposed consent conditions will not ensure that the very high risk to aviation safety will be avoided. Acknowledging that concern, on the basis of Mr Shaw's evidence and the changes to the draft proposed conditions, I consider that risk to aviation safety has been appropriately addressed.

Noise effects

- 95 The noise effects of the landfill and construction of road upgrades are described in the evidence of **Mr Vossart**. Noise emissions from the landfill site are predicted to comply with condition 3 of the designation, and road construction noise is predicted to comply with the relevant 2GP construction noise limits, such that noise effects will be acceptable. Mr Vossart considers that various refinements should be made to the indicative noise procedures in the draft LMP, which have been incorporated in the updated draft LMP (**Attachment 4**).

Summary of effects assessment

- 96 The expert evidence for DCC, considers that the landfill has been designed in accordance with best practice standards, and will be stable. The proposed road improvements will be safe and meet anticipated traffic demands. Effects on groundwater and surface water flows and quality, and LFG and fire risks will be mitigated and of a low magnitude and supported by ongoing monitoring to detect effects and enable management responses. Odour, dust, and flare emissions will be mitigated such that nearby receptors are unlikely to experience effects that are offensive or objectionable.
- 97 Effects on terrestrial and freshwater ecology values will be mitigated and of a low or negligible magnitude, and (where required) remedied, offset, and compensated to ensure no net loss of values. Landscape, visual amenity, and natural character effects will be low, and effects on archaeological values managed through standard processes. During landfill operation birds will be managed to ensure no increase in aviation risk, and noise will comply with the relevant noise standards. Key messages and recommendations in the CIA have been adopted to support recognition of mana whenua, and exercise of rakatiratata and kaitiakitaka.
- 98 Recognising the above, and the changes made to the draft proposed conditions, I consider the adverse effects of the proposal on the environment will be minor and acceptable, and further consider that the landfill will have positive effects with regard to supporting delivery of the wider Council Waste Futures programme and waste reduction and carbon

emission targets, generating economic benefits, and enabling restoration of degraded wetland environments within the site.

Assessment against the relevant planning documents matters (s104(1)(b) RMA)

- 99 An assessment against the relevant planning documents that fall within the scope of the resource consents applied for under section 104(1)(b) of the RMA is contained in section 9.0 of the AEE. This assessment however did not consider the Proposed Otago Regional Policy Statement (**Proposed RPS**), which was notified in June 2021 after the updated applications were submitted.
- 100 I agree with the ORC and DCC s42a reports that the following planning documents are relevant in respect of the applications, with the exception that the 2006 District Plan is no longer relevant to the resource consent applications for the road upgrades made to DCC as noted earlier: ²¹

ORC resource consent applications

- (a) National Environmental Standards for Air Quality 2004 (**NES-AQ**).
- (b) National Environmental Standard for Freshwater 2020 (**NES-FW**).
- (c) National Policy Statement for Freshwater Management 2020 (**NPS-FW**).
- (d) Partially Operative Regional Policy Statement (**PORPS**).
- (e) Proposed Otago Regional Policy Statement (**Proposed RPS**)
- (f) Otago Regional Plan: Waste (**RP-Waste**), as amended by proposed Plan Change 1.
- (g) Otago Regional Plan: Water (**RP-Water**), as amended by proposed Plan Changes 7 and 8.

DCC resource consent applications

- (h) Partially Operative Regional Policy Statement (**PORPS**).
- (i) Proposed Otago Regional Policy Statement (**Proposed RPS**)

²¹ The Otago Regional Plan: Air is not relevant, due to discharges to air from landfills instead being captured by the RP-Waste, and all other non-landfill discharges to air not requiring resource consent under the RP-Air.

(j) Proposed Dunedin City District Plan (**Proposed 2GP**).

- 101 I agree with the ORC s42A report that the current regional plans in particular pre-date and do not yet fully give effect to the higher order policy contained in the PORPS, PRPS, and NPS-FW. I consider this has resulted in a highly fragmented policy framework which results in conflicting and therefore uncertain policy direction against which to assess the project. Notification of the Proposed RPS after the updated application was submitted has resulted in further fragmentation of the policy framework.
- 102 I consider the provisions of the Proposed RPS are typically expressed in more directive terms to the equivalent provisions in the PORPS. The Proposed RPS freshwater provisions are also extensive and intended to give effect to the NPS-FW. This includes adoption of the NPS fundamental concept of Te Mana o te Wai, and Freshwater Management Unit's (FMU).²² Objective LF-WAI-O1, and policies LF-WAI-P1 – P3 are identified as fundamental to upholding Te Mana o te Wai and are required to be given effect when making decisions affecting freshwater.
- 103 I consider that due to the extensive submissions made on the Proposed RPS provisions, which are yet to be determined, limited weight should be applied to them, particularly given the PORPS is a contemporary plan that has only recently been made partially operative. This is except where the Proposed RPS provisions clearly align with the higher order settled directions of the NPS-FW.

Assessment of ORC resource consent applications against the planning documents

- 104 Attachment 13 of the ORC s42A report contains an assessment of the applications to ORC against the planning documents. On the basis of that assessment, the s42a report concludes that the proposal is contrary to a number of provisions of the NPS-FW, PORPS, Proposed RPS, RP-Waste, and RP-Water. Furthermore, the report considers the proposal is not entirely consistent with various other policies, but that some of those matters could be addressed through further amendment of the proposed consent conditions.

²² Under objective LF-VM-O5, the landfill catchment falls within the Dunedin & Coast FMU for the purposes of the future management of freshwater resources.

105 **Attachment 1** to my evidence outlines my response to the ORC s42a report assessment. I summarise the key differences between the s42A report, and my findings as follows.

Freshwater and indigenous biodiversity

106 Many of the ORC 42A report findings that the proposal is contrary or inconsistent with the planning provisions relate to perceived uncertainty of effects on the downstream hydrological regime, and consequentially on the extent of wetlands and rivers and their associated terrestrial and freshwater ecological values. Similar concerns are expressed in relation to effects on avifauna and lizards. Much of that concern relates to the ability of proposed conditions to manage uncertainties and ecological effects in accordance with the effects management hierarchy such that there is no net loss of ecological values.

107 As a consequence, the report considers in regard to freshwater and indigenous biodiversity matters that the proposal is:

- (a) ~~Contrary to~~Inconsistent with the NPS-FW policy 1 concept of Te Mana o te Wai, and the emerging corresponding direction in Proposed RPS land and freshwater objective and policies LF-WAI-O1, and LF-WAI-P1 – P4.
- (b) Inconsistent with NPS-FW policy 15 in regard to enabling communities to provide for their social, economic, and cultural wellbeing in a way consistent with the NPS.
- (c) Contrary or inconsistent with NPS-FW policies 6 and 7, PORPS policy 3.2.16, and Proposed RPS policies LW-FW-P9, ECO-P6, and RP-Water policies 5.4.2A, ~~and~~ 10.4.2, and 10.4.8 in regard to loss of natural wetlands, and river extent and their values.
- (d) Inconsistent with policy 9 of the NES-FW, PORPS policies 3.1.9, 3.2.2, 5.4.6, 5.4.6A, and Proposed RPS policies ECO-P3 and ECO-P6 in regard to protection of significant indigenous vegetation and significant habitats of indigenous fauna.
- (e) Inconsistent with but not contrary to PORPS policy 3.1.1 and RP-Water policy 5.4.2 in regard to maintaining good water quality, aquatic health, indigenous habitats and species, and natural functioning of rivers and wetlands, and *'avoiding'*, in preference to remedying or mitigating adverse effects on various RP-Water values listed for the Ōtokia Creek.

- (f) Inconsistent with PORPS policy 2.2.1 and Proposed RPS policy MW-P3, in regard to managing the environment to support Kāi Tahu wellbeing.
- 108 As per the assessment of effects above, the draft proposed ORC conditions have been further developed to address the uncertainties the s42A report has raised, including baseline and operational hydrological, water quality, and ecological monitoring of wetland and freshwater habitats and management plan requirements to ensure effects will be managed in accordance with the effects management hierarchy.
- 109 On the basis of the evidence of **Mr Kirk** and **Mr Ingles**, I consider that effects on groundwater and surface water flows and quality will be mitigated such that they will be of a low magnitude. On the basis of **Dr Morris** and **Dr Blakely's** evidence, I consider effects on the extent and quality of wetland and freshwater ecological values will similarly be of a low magnitude, and mitigated, remedied, offset, and compensated to ensure no net loss. On the basis of **Ms Sievwright** and **Ms King's** evidence all effects on avifuna and lizards are expected to be very low or negligible.
- 110 In regard to giving effect to Te Mana o te Wai, the NPS-FW notes that this concept refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.
- 111 There is a hierarchy of obligations in Te Mana o te Wai recognised in the single objective of the NPS-FW that prioritises: (a) first, the health and well-being of water bodies and freshwater ecosystems; (b) second, the health needs of people (such as drinking water); and (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future. On the basis of the expert evidence for DCC, I consider that the health and well-being of water bodies and freshwater ecosystems has been prioritised in accordance with the hierarchy obligations in the NPS-FW objective.
- 112 I note that the equivalent Proposed RPS objective LF-WAI-O1 is worded in a more directive way to require '*protection*' of the mauri, health and wellbeing of waterbodies. On the basis of the DCC expert evidence, I consider that every effort has been made to achieve protection, including through offsetting effects on mauri through enhancement of wetland/riparian habitats.

- 113 I therefore consider that Te Mana o Te Wai will be given effect to, consistent with policy 1 of the NPS-FW, and the proposal will as far as possible achieve *'protection'* of mauri, and health and wellbeing of waterbodies as required in Proposed RPS objective and policies LF-WAI-O1, and LF-WAI-P1 – P4, noting the Proposed RPS is at this time unsettled, and therefore less weight should be given to these provisions than the NPS-FW. Recognising the consistency with policy 1 of the NPS-FW, I also consider communities will be enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with the NPS, under NPS-FW policy 15.
- 114 In regard to the loss of wetlands and river extent and their values, NPS-FW policies 3.22 and 3.24, and the equivalent Proposed RPS policies LF-FW-P9 and P13, and RP-Water policies 5.4.2A and 10.4.8 require any reduction in the extent or values of *'natural wetlands'* or a river to be *'avoided'* unless:
- (a) In the case of wetlands, the loss arises from *'specified infrastructure'* that provides national or regional benefits, there is a *'functional need'* for the activity in that location, and the biodiversity effects management hierarchy has been applied.
 - (b) In the case of rivers, there is a *'functional need'* for the activity in that location, and the biodiversity effects management hierarchy has been applied.
- 115 The s42A report, considers the landfill may meet the definition of *'specified infrastructure'* in the NES-FW and Proposed RPS, but there is not a *'functional need'* for it to be located at the Smooth Hill site. I note landfills are not defined as *'regionally significant infrastructure'* in the Proposed RPS, and therefore by association they are not strictly captured in the definition of *'specified infrastructure'* under either NPS-FW or Proposed RPS. I note however that DCC has made submissions on the Proposed RPS seeking the inclusion of landfills in the definition of *'regionally significant infrastructure'*, such that this remains a live issue.
- 116 I consider there is a strong justification for landfills and in particular a class 1 MSW landfill serving Dunedin City to be *'regionally significant infrastructure'*, and therefore *'specified infrastructure'*. They provide an essential service for the disposal of residual waste and therefore provide significant community benefits much in the same way as other infrastructure like stormwater, and wastewater services that are currently captured in the Proposed RPS definition.

117 Furthermore, I also consider there is a *'functional need'* for a landfill in this location. The definition of *'functional need'* in the NPS-FW and Proposed RPS is not limiting to a particular site, but rather a particular environment as set out below:

*'functional need - the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment.'*²³

118 The important part of this definition is underlined above, notably that the activity can only occur in a wetland or river environment managed through policies 3.22 and 3.24 of the NPS-FW, and equivalent regional policies. In practice, I consider whether there is a functional need for an activity will depend on the specifics of the proposal in terms of the inability for a particular piece of infrastructure or a facility to be positioned elsewhere on the site due to the site's inherent nature.

119 In the case of the Smooth Hill site, the positioning of the landfill in gullies upstream of the wetland and river environments is required for a range of reasons, including:

- (a) By their nature (and as noted in the evidence of **Mr Coombe**), gully landforms are beneficial for designing a landfill. They provide for natural buttressing and containment of the waste and minimise the extent of earthworks required to establish the base of the landfill, as well as enable natural diversion and discharge of stormwater.
- (b) All gullies within the designated part of the site form part of the upper reaches of the Ōtokia Creek catchment, and therefore placement anywhere within the designated site will have some consequential degree of effect on the downstream wetland and river receiving environment.
- (c) Establishment of the landfill in the gullies enables other adverse environmental effects to be more readily contained and managed, particularly landscape and visual effects (as noted by **Mr Girvan**), and odour and noise effects on surrounding sensitive receptors (as noted by **Mr Stacey**, and **Mr Vossart**).

120 I therefore consider that the landfill qualifies as being regionally significant, and therefore *'specified infrastructure'*, and has a *'functional need'* to be located upstream of wetland and river environments on the site.

²³ Section 3.21, NPS-FW 2020

Recognising this, while not all effects on the extent or values of *'natural wetlands'* or a river will be *'avoided'*, as per the evidence of **Dr Morris** and **Dr Blakely** they will however be mitigated, remedied, offset, and compensated to achieve no net loss in accordance with the effects management hierarchy, and draft proposed conditions of consent.

- 121 Given landfills are not currently captured in the Proposed RPS definition of *'regionally significant infrastructure'*, I consider the proposal remains contrary to NPS-FW wetland policy 3.22 and the equivalent Proposed RPS policy LW-FW-P9 and RP-Water policy 10.4.8, noting that this remains a live issue through submissions on the Proposed RPS. However conversely it is consistent with the higher order NPS-FW wetland policy 6 under which policy 3.22 sits as effects wetlands will be managed in accordance with the effects management hierarchy such that there will be no further loss of wetlands, their values will be protected, and restoration will occur. For the same reasons I consider the proposal consistent with PORPS policy 3.2.16.
- 122 On the basis that loss of river extent and values will also be avoided to the extent practicable, I also consider the proposal will be consistent with NPS-FW river policies 7 and 3.24, and equivalent Proposed RPS policy LF-FW-P13, and RP-Water Plan policy 5.4.2A, noting consistency with these policies is not contingent on landfills being *'regionally significant infrastructure'*, and there is a *'functional need'* for landfill upstream of a river environment on the site.
- 123 Policy 10.4.2 of the RP-Water also relates to wetlands. I consider that policy 10.4.2 only applies to Regionally Significant Wetlands listed in Schedule 9 of the RP-Water, noting that objective 10.3.2 under which policy 10.4.2 sits seeks that *'Otago's Regionally Significant Wetlands and their values and uses are recognised and sustained.'* None of the wetlands immediately downstream of the landfill are identified as Regionally Significant Wetlands in Schedule 9, and on the basis of the evidence of **Mr Ingles**, **Dr Morris**, and **Dr Blakely**, I consider there will be no adverse effects on wetland values of the regionally significant Lower Ōtokia Creek Marsh at Brighton. Unlike the s42A report, I therefore consider the proposal will be consistent with RP-Water policy 10.4.2.
- 124 In regard to managing indigenous biological diversity, and the protection of significant indigenous vegetation and significant habitats of indigenous fauna, on the basis of the expert evidence and the proposed draft conditions, I consider the proposal will maintain ecosystem health and indigenous flora and habitats of fauna. The protection and enhancement of areas of significant indigenous vegetation and significant habitats of indigenous fauna within the swamp and valley floor marsh wetlands, and

habitats of avifauna and lizards will also be achieved. I therefore consider the proposal will be consistent with policy 9 of the NES-FW, PORPS policies 3.1.9, 3.2.2, 5.4.6, 5.4.6A, and Proposed RPS policy ECO-P3 and ECO-P6.

- 125 In regard to maintaining the values of freshwater, including those listed in the RP-Water for the Ōtokia Creek, I consider on the basis of the expert evidence for DCC and the draft proposed conditions the proposal will maintain good water quality and aquatic health, maintain indigenous habitats and species and their migratory patterns, and maintain as far as practicable the natural functioning and amenity and landscape values of rivers and wetlands. I consider the proposal will therefore be consistent with PORPS policy 3.1.1.
- 126 I agree with the ORC s42A report that the related RP-Water policy 5.4.2 requires effects to be *'avoided'* in preference to remedying or mitigating, however it does not discount remedying or mitigating being appropriate where effects cannot be avoided. I also note the use of the *'avoid'* terminology of the policy does not align with the higher order, settled, and more contemporary directions of the PORPS which have a focus on the *'maintaining and enhancing'* freshwater. On the basis of the expert evidence for DCC, I consider that adverse effects on the values of surface water and groundwater, and beds of rivers will be avoided, remedied, or mitigated consistent with policy 5.4.2.
- 127 The s42A report considers the proposal inconsistent with PORPS policy 2.2.1 and Proposed RPS policy MW-P3, in regard to managing the environment to support Kāi Tahu wellbeing, on the basis that some adverse effects on mauri will remain. On the basis of the DCC expert evidence, I consider that cultural values (in regard to mauri) have been *'recognised and provided for'*. Proposed RPS policy MW-P3 is worded in a more directive way requiring mauri be *'protected'* and *'safeguarded'*. As noted above, I consider that every effort has been made to achieve protection of mauri, including through offsetting effects through enhancement of wetland/riparian habitats. I therefore consider mauri has been *'protected'* and *'safeguarded'* as far as possible under Proposed RPS policy MW-P3, noting this provision is unsettled and limited weight should be applied to it.
- 128 The s42A report notes that the application to take and use groundwater is consistent with RP-Water Plan policy 10.2.2 (introduced through Plan Change 7) on the basis that a 6-year term for the water permit is sought. While I agree, I note that the applicant had originally sought a 35-year duration to align with the other consents sought and has amended the term in light of the very directive wording of policy 10.2.2 to *'only grant resource*

consents' for water takes and use for 6 years. While accepting the 6-year timeframe, I consider a 6-year duration presents significant uncertainty for the ability to obtain a new water permit to enable the continued operation of what would be significant community infrastructure, recognising the landfill is otherwise expected to have a consented life of 35 years.

Protection of infrastructure

- 129 The s42A report assessment considers there is a high risk to the functional needs of the airport, and the landfill is incompatible with and likely to result in reverse sensitivity effects in regard to the airport and aviation safety. It considers risk of bird strike has not been adequately assessed, and the proposed consent conditions are not sufficiently developed to ensure the high risk to aviation safety will be avoided.
- 130 The report therefore considers the proposal is contrary to PORPS policies 4.3.3, 4.3.5, [4.6.2](#), and 4.6.8 and Proposed RPS policies EIT-INF-P15, and HAZ-CL-P18 in regard to providing for the functional needs of infrastructure, protecting infrastructure of national or regional significance, and managing the disposal of waste. It also considers the proposal contrary to RP-Waste policy 7.4.11 in regard to minimising adverse effects from landfills.
- 131 As per the assessment of environmental effects above, on the basis of **Mr Shaw's** evidence, I consider that removal of putrescible waste to the extent practicable prior to placement of waste at Smooth Hill, along with implementation of operational and bird control procedures in the Bird Management Plan could result in a net reduction in aviation risk. The conditions have been further developed, including escalating management actions where trigger levels are exceeded to ensure effects on aviation risk are avoided.
- 132 I consider therefore that the functional needs of the airport will be provided for, the airport will be protected from reverse sensitivity effects, and the disposal of waste will be managed to ensure the health and safety of people and minimise adverse effects in regard to aviation safety consistent with PORPS policies 4.3.3, 4.3.5 and 4.6.8 and Proposed RPS policies EIT-INF-P16, and HAZ-CL-P18. Airport safety has also been appropriately considered as sought by the Waste Minimisation Institute New Zealand's Technical Guidelines for Disposal to Land (August 2018), and effects on aviation safety have been minimised, consistent with policy 7.4.11.

Waste management

- 133 The s42A report assessment considers that there are other viable alternative options to the disposal of waste at Smooth Hill, including export of waste and disposal at private landfills, and the reduction of putrescible waste through additional treatment of the waste stream prior to disposal. The report also considers the proposal will result in the creation of a new contaminated site and that effects on the environment have not been minimised as far as practicable.
- 134 The report therefore considers the proposal is contrary or inconsistent with PORPS policies 4.6.7 and 4.6.9, Proposed RPS policies HAZ-CL-P15, P16, and P17, and RP-Waste policies 4.4.2, 4.4.4, and 7.4.8 in regard to applying or giving effect to the waste management hierarchy, compositing of organic waste, promoting alternatives to landfills, and minimising adverse effects on the environment and mana whenua values from contaminated land.
- 135 As per the assessment of environmental effects above, on the basis of **Mr Henderson's** evidence, I note alternative options including out of district disposal and incineration are not preferred, and that food and organic waste will be diverted from the waste stream, and residual putrescible wastes will be removed from the waste stream to the extent practicable in accordance with waste minimisation principles.
- 136 I therefore consider that practicable alternative sites and methods have been considered; that the minimisation hierarchy has been given effect to; that compositing of organic waste will be provided for, and that the landfill will cater only for those materials that cannot be recycled, recovered, or treated for re-use consistent with PORPS policy 4.6.9, Proposed RPS policies HAZ-CL-P16, and P17, and RP-Waste policies 4.4.2, 4.4.4, and 7.4.8.
- 137 I consider contaminated land policies 4.6.9 of the PORPS, and policy HAZ-CL-15 should be considered in the context of policies 4.6.7 and 4.6.8 which provide for the development of facilities and services for the storage, recycling, recovery, treatment and disposal of waste materials. While the creation of contaminated land will not be avoided, I consider on the basis of the expert evidence for DCC, all adverse effects on the environment have been minimised as far as practicable consistent with these policies.

Precautionary approach

- 138 The s42A report assessment considers granting the applications would be inconsistent with a precautionary approach due to a limited programme of investigations, resulting in a lack of certainty that adverse effects will be avoided, remedied, mitigated, offset or compensated. It considers some of

this uncertainty could be managed through consent conditions. It therefore considers the applications are inconsistent with PROPS policy 5.4.3 and Proposed RPS policy IM-P15.

- 139 As per the expert evidence for DCC, I consider that sufficient investigations have been completed and any residual uncertainties in regard to land stability effects and effects on receiving terrestrial and freshwater environments will be adequately managed through the conditions, which have been further developed. I consider therefore that the adverse effects are not uncertain or poorly understood such that granting consent would be inconsistent with a precautionary approach. Accordingly, I consider the application consistent with PROPS policy 5.4.3 and Proposed RPS policy IM-P15.

Summary

- 140 Based on my assessment, I consider the ORC resource consent applications will be largely consistent with the various provisions of the relevant planning documents, and in particular the higher order, contemporary, and settled directions of the NPS-FW and PROPS, noting in particular that the Proposed RPS provisions seeking the '*protection*' or '*safeguarding*' of mauri remain unsettled.
- 141 I consider that the proposal remains contrary to NPS-FW policy 3.22, and the equivalent Proposed RPS policy LF-FW-P9, and RP-Water policy 10.4.8 in regard to the protection of '*natural wetlands*', owing to landfills not currently being defined as '*regionally significant infrastructure*' and therefore '*specified infrastructure*' for the purposes of these policies. However as noted, this remains a live issue through submissions made on the Proposed RPS, and furthermore the effects on natural wetlands will nonetheless be managed in accordance with the effects management hierarchy, such that the proposal is consistent with the higher order NPS-FW policy 6.
- 142 I therefore consider in an overall sense the proposal will be consistent with the overall policy direction provided by the planning documents.

Assessment of DCC resource consent applications against the planning documents

- 143 The DCC s42A report considers the proposed road upgrades to be consistent with the relevant provisions of the 2006 District Plan and Proposed 2GP as they relate to the retention of indigenous vegetation, control of earthworks, protection of archaeological sites, protection of health and amenity from construction noise, maintenance of cultural values, and

road safety and efficiency. The report considers that in all instances the proposal is consistent with the relevant provisions.

- 144 I agree with the s42A report that the proposal is fully consistent with the relevant provisions of the Proposed 2GP, noting as earlier the 2006 District Plan is no longer relevant to the assessment of this application.

Other relevant matters (s104(1)(c) RMA)

- 145 I agree with the ORC s42A report that the provisions of the Kāi Tahu ki Otago Natural Resources Management Plan 2005 (**NRMP**), and alternative sites and methods are relevant '*other matters*' to be considered under s104(1)(c) RMA. The DCC s42A report for the road upgrade does not identify any '*other matters*' to consider.

Consideration of the NRRP

- 146 In regard to the NRMP, the ORC s42A report considers the proposal contrary to Wai Māori policy 56 which 'opposes the draining of all wetlands'. It also considers the proposal inconsistent with other aspects of the Wai Māori policies on the basis that some effects on mauri will remain, and also the Mahika Kai and Biodiversity policies on the basis of perceived uncertainty of effects on the downstream hydrological regime, and consequentially on the extent of wetlands and rivers and their associated terrestrial and freshwater ecological values.
- 147 **Attachment 1** to my evidence outlines my response to the ORC s42a report assessment. I summarise the key differences between the s42A report, and my findings as follows.
- 148 In regard to Wai Māori policy 56, I consider it unclear whether '*draining*' in the context of this policy captures any hydrological change or just complete draining. As noted in my assessment of the planning documents, on the basis of the evidence of **Mr Kirk** and **Mr Ingles**, I consider that effects on groundwater and surface water flows and quality will be mitigated such that they will be of a low magnitude. I consider the wetlands therefore will be protected, and while it is accepted that there is the potential for some hydrological changes in the swamp and valley floor marsh wetlands to occur, on the basis of the evidence they will not be '*drained*'.
- 149 I consider the proposal is largely consistent with the other Wai Māori and Mahika Kai and Biodiversity policies, on the basis of the DCC expert evidence and the proposed draft conditions of consent that have been further developed. As noted in my assessment of the planning documents, every effort has been made to achieve protection of mauri, including

through offsetting effects through enhancement of wetland/riparian habitats. I consider mauri has been protected as far as possible such that the proposal is broadly aligned with the NRRP policies.

Consideration of Alternatives

- 150 The ORC s42A report has considered alternatives on the basis that the proposal may result in significant adverse effects and in light of the information provided in the application and s92 RMA responses. It identifies that consideration of disposal at an alternative location (private landfills within the district and/or private municipal landfills elsewhere in the region), and additional treatment to remove putrescible waste from the waste stream are viable alternatives that should be considered when determining whether to grant consent.
- 151 On the basis of my assessment of the effects above, I do not consider the proposal will result in any significant adverse effects, such that assessment of alternatives under section 104(1)(c) (and 105(1)(c)) RMA is warranted. Notwithstanding this, as noted above, the evidence of **Mr Henderson** has addressed alternatives. Extension of Green Island landfill, out-of-district disposal, and incineration options have also been considered. None of these options are preferred due to for technical constraints and consenting challenges (Green Island); lack of control over the waste cycle, and cost increase exposure (out-of-district); and high capital cost, cultural acceptability; and ash disposal (incineration). Food and garden organic waste streams will however be collected and processed separately to minimise disposal of this material at Smooth Hill, and that to the extent practicable residual putrescible waste will be removed prior to transport and disposal of general waste at the landfill.

Consideration of the gateway test (s104D RMA)

- 152 The ORC s42A report considers the 'gateway' tests of s104D are a relevant consideration on the basis that the application is a non-complying activity under the NES-FW. As noted earlier, while that is the case, as the application was submitted prior to the NES-FW coming in effect, s88A of the RMA provides that the activity status of the applications remains discretionary. Accordingly, I do not consider the s104D 'gateway' tests a relevant consideration, although based on my assessment of the effects and relevant planning provisions, the proposal overall would pass the gateway.

Matters relating to discharges (s105 and s107 RMA)

- 153 I have considered s105(1)(c) regarding any possible alternative methods of discharge in the context of s104 *'other matters'* above, and don't repeat that assessment here.
- 154 S107 RMA provides that a consent authority must not grant a discharge permit, if after reasonable mixing, the contaminant or water discharges is likely to give rise to various effects in the receiving waters, including (among others) any conspicuous change in the colour or visual clarity. The s42A report considers the proposed condition 26(c) (renumbered 35(c)) would enable the setting of trigger levels of suspended sediment that would lead to a conspicuous change in colour and visual clarity and therefore contravene s107 RMA.
- 155 I acknowledge that the conditions for setting trigger levels for flood events as worded could have the potential to lead to a discharge of suspended sediments resulting in a conspicuous change in colour and visual clarity in the receiving waters downstream of the site. Recognising that, I have amended draft proposed ORC condition 35(c) to require trigger levels for suspended sediments for flood events to be based on visual inspection with the discharge not causing a conspicuous change in colour or visual clarity after reasonable mixing in the downstream receiving waters.

Purpose and principles of sustainable management (Part 2 RMA)

- 156 In the decision *RJ Davidson Family Trust v Marlborough District Council* [2018] NZCA 316 the Court of Appeal reconfirmed the pre-eminence of Part II matters in the consideration of resource consents. In particular, the Court of Appeal held in *Davidson* that the High Court erred in holding that the Environment Court was not able or required to consider Part 2 of the RMA. That is, recourse to Part II is retained in appropriate situations.
- 157 In this instance where the planning framework (i.e. NPS-FW, PROPS, Proposed RPS, RP-Water, and RP-Waste) have been introduced at separate times and with a different emphasis, it is unclear whether a coherent environmental outcome is completely provided for in the [planning documents for the](#) consents sought. Accordingly, out of caution, I have considered Part 2. This is intended to assist the overall evaluation of the proposal, to assess the merits and reach a fair appraisal.
- 158 On the basis of my assessment above, the proposal will support Dunedin's future needs for the disposal of residual waste to support social and economic well-being, and health of the community. It will do this in a way that sustains the potential of natural and physical resources; safeguards

their life supporting capacity; and avoids, remedies, and mitigates adverse effects on the environment. Accordingly, it accords with the enabling purpose in section 5 of the Act to promote the sustainable management of natural and physical resources.

- 159 In regard to section 6 ‘matters of national importance’, the proposal *‘recognises and provides for’* the preservation of the natural character of the wetlands and rivers; protection of areas of significant indigenous vegetation and fauna; and the management of significant natural hazard risks. It also largely recognises and provides for the relationship of Māori with ancestral lands, waters, and taonga. In regard to section 7 *‘other matters’*, the proposal has had particular regard to and will support the efficient use and development of natural and physical resources, and the maintenance of the quality of the environment and amenity values.
- 160 Section 8 of the Act requires the principles of the Treaty of Waitangi to be *‘taken into account’*. Kāi Tahu cultural values (including mauri, whakapapa, and mahika kai), customary uses, relationships to resources, areas of significance, and protection of wāhi tupuna identified in the CIA have been taken into account.
- 161 Given the above, I consider the proposal will achieve the purpose and principles of Part 2 RMA.

Response to matters raised in submissions

Alignment with Freshwater provisions of NES-FW and Proposed RPS

- 162 The submissions of Brighton Surf Life Saving Club, Ōtokia Creek and Marsh Habitat Trust, and South Coast Neighbourhood Society Inc, and others consider the proposal does not align with the NES-FW and/or Proposed RPS. Following the gazettal of the NES-FW, the DCC has worked to achieve alignment with the intentions of the NES-FW resulting in a modified proposal which now avoids any works within *‘natural wetlands’*. Accordingly, the proposal as it is now stands is not a prohibited activity under the NES-FW.
- 163 My evidence above has considered the consistency of the proposal with freshwater objectives and policies of the NPS-FW (which supports the NES-FW regulations), PORPS, Proposed RPS, and RP-Water. Noting that limited weight should be applied to the Proposed RPS provisions at this time, my assessment concludes that the proposal overall is consistent with the freshwater objectives and policies of these planning documents, and in particular the higher order, contemporary, and settled directions of the NPS-FW and PORPS.

Protection of Dunedin International Airport from Incompatible Activities

- 164 DIAL consider that the landfill will result in increased risk of reverse sensitivity effects and compromise health and safety needs contrary to the 'avoid' policies in the Proposed RPS. The New Zealand Airline Pilots Association consider that the landfill would negatively impact on the potential of the airport, as a resource, to meet the reasonably foreseeable needs of the local community, and therefore is inconsistent with the RMA.
- 165 The concerns of DIAL and the Airline Pilots Association stem from concerns that the landfill will result in increased bird strike risk from the attraction of birds to the landfill. These concerns have been addressed in the evidence of **Mr Shaw** and following the close of submissions the applicant has conferred with DIAL on the draft proposed conditions relating to bird management. At the time of finalising my evidence, DIAL was considering these amendments. On the basis of Mr Shaw's evidence and the changes to the proposed draft proposed conditions, I consider that risk to aviation safety has been appropriately addressed.

Adequacy of Proposed Conditions

- 166 The submission of Big Stone Forest Limited considers that the draft conditions do not meet best practice, do not secure critical performance standards, and demonstrate significant deficiencies, meaning the conclusions of the effects assessments cannot be relied upon. They consider significant improvements are needed to the conditions and LMP to address risks and uncertainty, including controls on the size of the working face, controls on the oxygen content of LFG, prohibition of POP's, a covered dumping zone to manage odour, monitoring of hydrogen sulphide, and more limited operating hours.
- 167 The submission of A & M Granger considers the opening hours should be limited to 7am-6pm Monday to Friday (summer), and 8am-5pm Monday to Friday (winter), and that illegal dumping should be cleared quickly to protect neighbouring properties.
- 168 The Public Health Service (SDHB) consider the conditions should be adequate to protect public health and no less stringent than the appropriate NZ and adopted guidelines and standards for this type and scale of facility. They also consider monitoring conditions should be adequate to protect public health by giving an early warning of any treatment or design issues, engineering issues or failures, and this information should be made clearly available to the public.

- 169 The Director General of Conservation considers that management plan conditions should contain clear and effects-based objectives and performance standards, to ensure the management plans will lead to actions 'on the ground' to achieve environmental outcomes; have ongoing effect, and require ongoing implementation; set intervention thresholds to allow review and intervention if objectives are not being met; require ongoing monitoring and reporting; provide for adaptive management where appropriate; and are enforceable throughout the duration of the consents.
- 170 I agree it is important that conditions of consent capture critical performance standards in line with NZ and adopted guidelines and standards to ensure the effects of the activity are appropriately managed and monitored. In that regard, I note that the draft conditions included with the application were a starting point, and as is typical and good practice I expected the conditions would evolve as informed by submissions, Council technical peer reviews, the s42A reports, and ultimately the input of decision makers.
- 171 While conditions of consent should capture critical performance standards, I also consider that reasonable flexibility needs to be built in to allow for changes that may occur as part of detailed landfill design, future changes in landfill best practice design and management, and any changes that occur to the baseline environment prior to construction commencing. Matters requiring flexibility for construction and operation are more appropriately captured as procedures within the LMP.
- 172 Noting the submission of the Director General of Conservation, I agree it is also important that the conditions provide clear effects-based objectives for the LMP and management plans to ensure plans include procedures which achieve ongoing environmental outcomes for the duration of the consents, processes for approval and review of effectiveness, and adaptive management where appropriate.
- 173 Recognising the above, considerable changes to the draft proposed ORC conditions (**Attachment 2**) from those originally submitted to capture additional performance standards, improve monitoring requirements, and refine LMP and management plan processes and objectives. In regard to the specific conditions requested by these submissions, I note the following:
- (a) As per the fire evidence of **Mr Dixon**, the size of the active landfilling area (tip face) will be will generally be limited in area to no greater than 300 m² and will not extend beyond 1,000 m². If the fire danger rating is very high or extreme, it will be limited to no greater than 300 m². Changes addressing this are captured in in conditions 100 and 101.

- (b) As per the evidence of **Mr Welsh**, the LFG systems will be designed, installed, operated, and maintained to minimise potential oxygen ingress into the landfill, and regular monitoring of oxygen in the collected LFG against trigger levels will occur, and actions implemented (e.g. system balancing) where levels are exceeded. Changes addressing this are captured in conditions 50 – 60 and Attachment 2 to the proposed draft conditions.
- (c) As per the evidence of **Mr Kirk**, persistent organic pollutants (POP's) in waste are very unlikely to influence water quality downstream of the landfill, but monitoring of leachate and surface water for perfluorooctanesulfonic acid (PFOS) should be undertaken as a cautionary measure. Changes addressing this are captured in Attachment 1 to the proposed draft conditions.
- (d) As per the evidence of **Mr Stacey**, specific mitigation measures have been developed to reduce the likelihood and control odour from highly odorous waste types, but that a covered dumping zone is unnecessary as odour can be managed using standard handling procedures. Changes addressing this are captured in condition 43, and in the draft LMP (**Attachment 4**).
- (e) As per the evidence of **Mr Stacey**, monitoring of hydrogen sulphide will be undertaken. Changes addressing this are captured in Attachment 2 to the proposed draft conditions.
- (f) Changes to landfill operating hours are addressed in the evidence of **Mr Henderson**. I note that the proposed hours where waste deliveries will be accepted in condition 90 fall within the change in operating hours proposed by Mr Henderson.
- (g) I agree that any illegal dumping that might occur outside the site should be cleared rapidly to protect rural amenity and consider procedures addressing this should be included in the LMP. An LMP objective capturing this has been added to condition 113, and a reference included in the draft LMP (**Attachment 4**).
- (h) I agree that monitoring information should be made available to the public to provide transparency and public confidence that landfill is being operated in accordance with the requirements of the resource consents. Changes addressing this are captured in conditions 7 and 112.

Approval of Consent Prior to Development of Detailed Design and Water Monitoring Trigger Levels and Actions

- 174 The submission of F Patrick considers that final geotechnical investigations, detailed design, and development of monitoring requirements for the landfill should be completed before the approval of consents, and that a contingency plan should be developed outlining measures in the event that something goes wrong. Fish & Game similarly considers that the LMP should be developed prior to a decision on the consents being made, which includes trigger values and water quality standards for the discharge and the receiving waters; a plan that identifies actions to what must happen if exceeded; and an ability for the public to provide feedback.
- 175 Completion of final investigations, and detailed design ahead of resource consents being approved for a major infrastructure project is a rare occurrence in my experience, as it would commit the applicant to detailed design costs in the absence of certainty of consent approval. I note the evidence of **Ms Webb** considers that the current level of geotechnical investigation is appropriate for this site, and **Mr Coombe's** evidence is that the concept design is in accordance with the WasteMINZ guidelines.
- 176 Based on the technical evidence, I consider the draft proposed ORC conditions provide appropriate direction on the additional investigations and requirements for the detailed design of the landfill. The addition of requirements for an independent peer review panel in particular will provide oversight of the design, operation, and closure of the landfill bringing added confidence to the public that the landfill is designed and operated in accordance with the consent requirements.
- 177 Establishment of monitoring trigger values and water quality standards for the discharge and receiving waters should be informed by completion of baseline monitoring over an appropriate timeline leading up to construction commencing to establish baseline conditions, to ensure trigger levels and standards are set at the correct level. As noted earlier in my evidence, considerable changes to the draft proposed ORC water quality monitoring conditions 27 - 39 (**Attachment 2**) have been made, which include development of a Receiving Waters Environment Management Plan setting out the long-term monitoring programme which is to include monitoring trigger levels.
- 178 I agree that there is a need for contingency measures to be developed in the event of non-compliance with the water quality trigger values for the receiving waters. Specific management actions in the event of non-compliance are identified in water quality monitoring condition 36.

Additional actions will ultimately be included in the Receiving Waters Environment Monitoring Plan required under condition 33 to be developed following the completion of baseline monitoring, which is to form part of the overall LMP required under condition 113 (**Attachment 2**).

Design and Construction of State Highway 1 Intersection with McLaren Gully Road

179 Waka Kotahi New Zealand Transport Agency request conditions and advice notes be added to the resource consent to ensure the final design and construction of the State Highway 1 intersection with McLaren Gully Road is of an acceptable standard. The conditions and advice notes sought by Waka Kotahi have been incorporated in conditions 15 - 19 in the draft proposed DCC conditions of consent (**Attachment 3**).

Proposed conditions

180 As noted throughout my evidence, the draft proposed ORC and DCC conditions have been updated and are included as **Attachments 2** and **3** respectively. In addition, the draft LMP document has been updated to align with amendments made to the draft proposed ORC conditions and is included as **Attachment 4**. I note however that the draft ecological and bird management plans originally included with the application and which form part of the LMP suite have not been updated and will be amended and finalised prior to construction to align with the conditions, should consents be granted.

181 The changes made are extensive and have been referred to throughout my evidence. I note the following additional amendments to the draft proposed ORC conditions that have been made in direct response to the s42A report:

- (a) References have been made through the conditions relating to the certification of the detailed design, LMP and related management plans that clarify the certification role of the independent peer review panel, versus the role that ORC then has in confirming compliance with the conditions. References have been added to conditions 5, 34, 66, 67, 69, 71, 72, 78, 110, and 113.
- (b) Reference to residual putrescible waste being removed from the general waste stream *'to the extent practicable'* has been retained in condition 64 (renumbered 75). How this will be achieved has been detailed in a new residual putrescible waste separation methodology in Attachment 3 to the conditions to ensure the condition is enforceable.

Conclusion

182 Overall, I consider based on DCC's expert evidence, the updated draft proposed conditions, and my evaluation of the relevant RMA provisions for these applications, that:

- (a) The environmental effects of the proposal will be minor and acceptable given the proposed measures to manage adverse effects, and positive effects will be generated (s104(1)(a), (ab) RMA);
- (b) The proposal overall will be consistent with the provisions of the relevant national, regional and district statutory planning documents (s104(1)(b) RMA);
- (c) Appropriate regard has been given to '*other matters*' including alternative sites and methods, and the proposal broadly aligns with the NRMP (s104(1)(c) RMA));
- (d) The proposal is not contrary to the restrictions on the granting of discharge permits (s107 RMA); and
- (e) The proposal will achieve the purpose and principles of Part II the RMA.

183 I have addressed the submissions relevant to planning matters, and the s42A reports, and conclude that there are no reasons why the proposal could not be approved, subject to the updated proposed draft conditions.



Maurice Richard Dale

29 April 2022