

Otago Regional Council

Section 42A Staff Recommending Report

Application RM20.280
Dunedin City Council

The recommendation in the staff report represents the opinion of the writers and it is not binding on the Hearing Commissioners. The report is evidence and will be considered along with any other evidence that the Hearing Commissioners will hear.

Hilary Lennox
Consultant Planner

20/04/2022

Executive Summary of Recommendation

Dunedin City Council has applied for resource consents for various activities associated with a proposed landfill at Smooth Hill, Dunedin. The application was publicly notified on 18 September 2021 and 283 submissions were received, most of which were in opposition.

The overall activity status of the application is **discretionary**.

After assessing the actual and potential effects of the proposed activities, considering submissions, and considering all of the matters in section 104 of the Resource Management Act 1991, my recommendation is to **refuse** the application.

This recommendation is based on the information presented by the applicant to date, and I am anticipating that the applicant will provide further information prior to and at the hearing that may affect this recommendation.

This report refers frequently to the ORC Notification Recommendation Report dated 13 September 2021 (the s95 report) and should be read in conjunction with that report.

Report Author

My name is Hilary Lennox and I am a Senior Consultant at Ahikā Consulting Ltd. I have 15 years' experience working in the resource management sector both as a regional council employee and as a consultant planner applying for consents on behalf of private clients and processing consents on behalf of ORC.

I have been processing Consent Application RM20.280 on behalf of ORC since it was lodged in 2020 and coordinated pre-application reviews of the proposal prior to this. I have visited the site twice and will be visiting the site for a third time on 16 May 2022.



Hilary Lennox
Consultant Planner on behalf of ORC

OTAGO REGIONAL COUNCIL SECTION 42A REPORT

Application No: RM20.280
Prepared For: Hearings Panel (the decision makers)
Prepared By: Hilary Lennox, Consultant Planner
Date: 20 April 2022

Subject: Section 42A Recommending Report – Application RM20.280 by the Dunedin City Council for various activities for the purpose of the construction and operation of a Class 1 landfill at Smooth Hill

1. Purpose

This report has been prepared under Section 42A of the Resource Management Act 1991 (RMA) to assist in the hearing of the application for resource consents made by Dunedin City Council. Section 42A enables local authorities to require the preparation of a report on an application for resource consent and allows the consent authority to consider the report at any hearing. The purpose of the report is to assist the decision makers in making a decision on the application.

This report assesses the application in accordance with Sections 104 and 104B of the Resource Management Act 1991 and makes a recommendation as to whether the application should be granted.

This report contains the recommendations of the Consultant Planner and is not a decision on the application. The recommendations of this report are not binding on the decision makers. This report is evidence and will be considered along with any other evidence that the decision makers will hear.

2. Summary of the Application

2.1 Overview

Applicant: Dunedin City Council

Applicant's Agent: Anderson Lloyd Ltd

Site address or location: Corner of Big Stone Road and McLaren Gully Road, Dunedin

Legal descriptions of the landfill site: Lots 1 & 2 DP 457417 and Sec 1-2 SO Plan 547235

Property owner: Dunedin City Council

Map reference: NZTM2000 1385764E 4905608N

Consents sought:

- Discharge Permit to discharge waste and leachate onto land, to discharge landfill gas, flared exhaust gases, dust and odour to air, and to discharge water and contaminants from an Attenuation Basin and sediment retention ponds to water, for the purpose of the construction and operation of a Class 1 landfill.
- Water Permit to take up to 87 m³/day and 1,600 m³/yr of groundwater, and use of up to 50 m³/day of groundwater, for the purpose of managing groundwater collected beneath a Class 1 landfill.
- Water Permit to divert surface water within the Ōtokia Creek catchment for the purpose of the construction and operation of a Class 1 landfill.
- Water Permit to dam water within an Attenuation Basin for the purpose of the construction and operation of a Class 1 landfill.

Consent term sought: 35 years for all consents other than the water permit to take groundwater, for which a 6 year consent term is sought.

Purpose: For the purpose of the construction and operation of the Smooth Hill Landfill

Information requested:

- *Pre-lodgement:* Prior to the lodgement of the application, both ORC staff and myself (on behalf of the ORC) discussed with the applicant which consents would be required for the proposed activities. Tonkin & Taylor Ltd (T+T) was engaged by the ORC to undertake a high level review of draft versions of several technical reports on behalf of the ORC to determine whether the reports were satisfactory in terms of s88 of the RMA.
- *August 2020:* The application was lodged on 27 August 2019. T+T was engaged to provide an audit of the Landfill Concept Design Report, Geotechnical Interpretive Report,

Geotechnical Factual Report, Groundwater Report, Surface Water Assessment Report, Air Quality Report, Ecological Impact Assessment Report and Acoustic Assessment Report on behalf of the ORC. Ben Espie of Vivian Espie Ltd (Vivian Espie) was engaged to review the Landscape and Visual Assessment Report.

- *October 2020:* A request for further information that contained questions from both myself and T+T was sent to the applicant on 13 October 2020. Mr Espie did not have any questions. During summer 2020/21, various online meetings were held between myself and T+T and the various technical experts acting on behalf of the applicant. The purpose of these meetings was to ensure that the request for information was thoroughly understood by the applicant's technical experts so that they may respond appropriately.
- *May 2021:* A response to the ORC's request for further information was submitted on 31 May 2021. This included extensive redesign of the landfill and revised application documentation. This generated further questions from both myself and T+T, which were presented to the applicant on 21 June 2021. The applicant's technical experts were invited to contact T+T to address points of clarification.
- *August 2021:* A response to the ORC's questions was submitted on 5 August 2021 and T+T was asked to confirm whether they concurred with the applicant's conclusions. This is discussed in greater detail in the s95 report, but it is worth noting here that T+T identified several areas where further information and/or clarification was required to support the applicant's conclusions regarding the potential effects of the proposed activities.
- *September 2021:* The application was publicly notified and the standard submission period was doubled due to the scale and complexity of the application.
- *February - April 2022:* The applicant was asked to respond to matters raised by myself and T+T in the s95 report, and several further matters raised in the submissions. An initial response was provided on 18 March 2022 (see *Attachment 1 - DCC responses to pre-hearing questions 18 Mar 22*) and further response were provided on 5 April 2022 (see *Attachment 2 - L from Anderson Lloyd RE conditions, water permit term 5 Apr 22*) and 7 April 2022 (see *Attachment 3 - L from Anderson Lloyd RE road realignment 7 Apr 22*).

Notification decision: The application was publicly notified on 18 September 2021

Submissions: 283 total submissions were received:
- in support: 2
- in opposition: 272
- neutral: 9
Number of late submissions: 4 (3 of which were received)
Wishing to be heard: 147 (later reduced to 29)

Site visit: I first visited the site on 9 June 2020 before the application was lodged. Various attendees were also present on behalf of the applicant. The purpose of this site visit was to have a preliminary view of the site and its surrounds.

I next visited the site on 6 October 2020. Martin King (Principal Compliance Specialist, ORC) and Mike Lake (Freshwater Ecologist, T+T) were in attendance on behalf of the ORC. Various other attendees were present on behalf of the applicant. One of the key objectives of this site visit was to determine whether the two ephemeral gullies onsite should be classed as 'rivers' under the RMA.

Ben Espie of Vivian Espie Ltd visited the site on 11 March 2022 (on behalf of ORC) along with Rhys Garvan of Boffa Miskell Ltd (on behalf of the applicant) to discuss the applicant's assessment of effects on landscape values.

Key Issues:

It is considered that the key issues with this application are:

- The proximity of the proposed landfill to the Dunedin International Airport and the very high risk to aviation safety due to increased bird activity in well-used flight paths.
- Uncertainty regarding the degree to which wetland habitat will be affected and consideration of this against the NPS-FW.
- Limited programme of investigations supporting the applicant's conclusions and the resulting lack of certainty that adverse effects will be avoided, remedied, mitigated, offset or compensated.
- Strong opposition to the proposal from those who made a submission.

Specialist Advice:

As noted above, T+T was engaged to provide an audit of the Landfill Concept Design Report, Geotechnical Interpretive Report, Geotechnical Factual Report, Groundwater Report, Surface Water Assessment Report, Air Quality Report, Ecological Impact Assessment Report and Acoustic Assessment Report on behalf of the ORC. Vivian Espie was engaged to review the Landscape and Visual Assessment Report. Wynn Williams was also engaged to provide legal advice to ORC to assist with the preparation of this report.

Memos were prepared by T+T to assist with the preparation of the s95 report. Several of these have since been revised and are attached to this report. Memos from Vivian Espie and Wynn Williams are also attached to this report.

At this stage I anticipate that Michelle Mehlhopt (Special Counsel, Wynn Williams), Josh Markham (Senior Terrestrial Ecologist, T+T),

Mike Lake (Senior Freshwater Ecologist, T+T), Sally Lochhead (Senior Hydrogeologist, T+T) and Peter Cochrane (Principal Environmental Scientist, T+T) will be available to answer questions at the Hearing. Andrew Stiles (Geotechnical Consultant), Tony Bryce (Technical Director, Environmental Engineer) and Richard Chilton (Principal Air Quality Scientist) can also be called upon as required.

2.2 Description of Application

The proposed activities are described in Section 3 of the ORC Notification Recommendation Report dated 13 September 2021 (the s95 report) and the application documents. In the interest of efficiency and ensuring that this report is easier to read, that information is not repeated here.

Amendments to the applicant's proposed consent conditions have been made since the s95 report was written. The most recent set proposed by the applicant, dated 5 April 2022 (attached), is referred to regularly throughout this report to help explain some of the reasons behind my overall recommendation to refuse the application.

On 7 April 2022, the applicant amended the application to realign the proposed road carriageway to avoid any direct impact on wetlands located alongside McLaren Gully Road. Accordingly, land use consent is no longer sought under RPW Rules 13.1.2.1, 13.2.3.1 and 13.5.3.1, and NES-FW Regulations 52, 53 and 57 for the road upgrade. A land use consent is, however, still required for the road upgrades under Regulation 54 (vegetation clearance and earthworks within 10 m of a natural wetland).

2.5 Application Documents

The applicant has provided the following documentation with the application:

- Smooth Hill Landfill Assessment of Environmental Effects for Updated Design, May 2021
- Appendix 1 - Records of Title, May 2021
- Appendix 2 - General Arrangement Plan, May 2021
- Appendix 3 - Landfill Concept Design Report, May 2021
- Appendix 4 - Concept Design Plans, May 2021
- Appendix 5 - Geotechnical Interpretative Report, May 2021
- Appendix 6 - Geotechnical Factual Report, May 2021
- Appendix 7 - Economic Assessment Report, May 2021
- Appendix 8 - Groundwater Report, May 2021
- Appendix 9 - Surface Water Assessment Report, May 2021

- Appendix 10 - Air Quality Report, May 2021
- Appendix 11 - Ecological Impact Assessment Report, May 2021
- Appendix 12 - Landscape and Visual Assessment Report, May 2021
- Appendix 12 - Amended Landscape Mitigation Plan, July 2021
- Appendix 13 - Archaeological Assessment Report, May 2021
- Appendix 14 - Cultural Impact Assessment, May 2021
- Appendix 15 - Integrated Transport Assessment Report, May 2021
- Appendix 16 - Acoustic Assessment Report, May 2021
- Appendix 17 - Draft Conditions of Consent (superseded)
- Appendix 18 - Provisions of the Statutory Planning Documents, May 2021
- Appendix 19 - Preliminary Site Investigation Report, May 2021
- Original s92 response - Cover Letter from Anderson Lloyd, 31 May 2021
- Original s92 response - Beca Site Selection Assessment from 1992, May 2021
- Original s92 response - Draft Landfill Management Plan including Draft Bird Management Plan, 4 June 2021
- Original s92 response - various spreadsheets detailing amendments that were reflected in the revised application documents
- Further s92 response - Cover Letter from Anderson Lloyd, received 5 Aug 2021
- Further s92 response - Table of Responses, 5 Aug 21
- Further s92 response - Updated Alternatives Assessment, 5 Aug 21
- Further s92 response - Conditions V7, 5 Aug 21 (superseded)
- Further s92 response - various technical information (air quality technical memorandum, GIR cross sections, groundwater figures and HELP model, results from borehole investigations)
- Pre-hearing questions - DCC responses to pre-hearing questions, 18 Mar 22
- Pre-hearing questions - Smooth Hill draft conditions from DCC, 18 Mar 22 (superseded)
- Pre-hearing questions - L from Anderson Lloyd RE conditions, water permit 5 Apr 22
- Pre-hearing questions - Smooth Hill draft conditions 5 Apr 22 (current)
- Pre-hearing questions - L from Anderson Lloyd RE road realignment 7 Apr 22

Documentation relating to the original design is not listed here because this is now irrelevant.

3. Notification and Submissions

3.1 Notification Decision

Council made the decision to process the application on a publicly notified basis under Section 95C and 95D of the RMA on 13 September 2021. The standard submission period was doubled

given the scale and complexity of the application, and ran from until 18 September until 15 November 2021.

3.2 Submissions Received

A summary of the submissions received is attached to this report. Key issues raised in submissions include:

- Risk of contamination of surface water, groundwater and coastal waters from landfill leachate and wind-blown rubbish, and associated adverse effects on fish, other instream values, and human health;
- Loss of riparian and wetland habitat due to effects on the hydrological/hydrogeological regime of the Ōtokia Creek catchment;
- Adverse effects on falcon, lizards and other terrestrial biodiversity values;
- High risk to aviation safety due to increased bird activity in well-used flight paths;
- Perception of risk and how this might affect the use/enjoyment of Ōtokia Creek and Brighton Beach, and knock-on effects on community wellbeing and house prices;
- High degree of reliance placed on a site selection process undertaken 30 years ago; and
- Limited assessment of seismic risk.

4. Description of the Environment

A detailed description of the site and the receiving environment is provided in Section 4 of the s95 report and the application documents. In the interest of efficiency and ensuring that this report is easier to read, that information is not repeated here.

5. Status of the Application

The following consents are required under the Regional Plan: Waste (RPWaste), Regional Plan: Water (RPW) and the Resource Management (National Environmental Standards for Freshwater) Regulation 2020 (NES-FW).

Table 1: Planning Rules

Planning Instrument	Rule	Purpose	Activity Status
RPWaste	6.6.1, 7.6.1	Discharge of waste and hazardous waste onto land, discharge of leachate onto land, discharge of LFG, flared exhaust gases, dust and odour to air. (Discharge Permit required)	Discretionary
RPW	12.3.4	Diversion of surface water within the Ōtokia Creek catchment and damming of water in the Attenuation Basin. (Water Permit required)	Discretionary
RPW	12.B.4.1	Discharge of surface water runoff, collected groundwater, and contaminants from the Attenuation Basin and sediment retention ponds to an unnamed tributary of Ōtokia Creek. (Discharge Permit required)	Discretionary
RPW	12.2.4	Abstraction of up to 87 m ³ /day and 1,600 m ³ /yr of groundwater from the landfill groundwater collection system, and use of up to 50 m ³ /day of groundwater for non-potable water supply for the landfill facilities. (Water Permit required)	Discretionary
NES-FW	Regulation 39	Vegetation clearance within, or within 10 m of, wetlands for the purpose of wetland restoration. (Land Use Consent required)	Restricted Discretionary
NES-FW	Regulation 52 <i>This regulation applies where</i>	The following activities will occur outside, but within a 100 m setback from, a natural wetland:	Non-complying

	<i>the activity results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland</i>	<ul style="list-style-type: none"> • Earthworks associated with landfill construction; • The taking and use of groundwater from the sub-surface drainage system; • Damming of water in the Attenuation Basin; and • Diversion of surface runoff. <p>(Land Use Consent and Water Permit required)</p>	
NES-FW	Regulation 54 <i>This regulation applies where the activities do not have another status</i>	<ul style="list-style-type: none"> • Vegetation clearance within, or within a 10 m setback from, a natural wetland for the purpose of landfill construction and road upgrade; • Earthworks within a 10 m setback from a natural wetland for the purpose of landfill construction and road upgrade; • The taking and use of groundwater within a 100 m setback from a natural wetland; • Damming of water in the Attenuation Basin within a 100 m setback from a natural wetland; • Diversion of surface runoff within a 100 m setback from a natural wetland; and • The discharge of water from the Attenuation Basin and SRPs within a 100 m setback from a natural wetland. <p>(Land Use Consent, Water Permit and Discharge Permit required)</p>	Non-complying

The NES-FW came into force on 3 September 2020, which was after the date of the lodgement of this application. The table above details provisions of the NES-FW that are relevant to the proposal. Consent must be obtained under these provisions. However, where a NES-FW regulation results in a more stringent activity status than that assigned in the RPW, section 88A of the RMA provides that the status of the activity remains unchanged from what it was when the application were lodged. Accordingly, overall, the application is considered to be a **discretionary** activity.

Note that since the s95 report was written, the applicant has amended the application to realign the proposed road carriageway to avoid any direct impact on wetlands located alongside McLaren Gully Road. Accordingly, land use consent is no longer required under prohibited activity regulation 53 of the NES-FW. A land use consent is, however, still required for the road upgrades under Regulation 54 (vegetation clearance and earthworks within 10 m of a natural wetland).

6. Section 104 Evaluation

Section 104 of the Act sets out the matters to be considered when assessing an application for a resource consent. These matters are subject to Part 2, the purpose and principles, which are set out in Sections 5 to 8 of the Act.

The remaining matters of Section 104 to be considered when assessing an application for a resource consent are:

- (a) the actual and potential effects on the environment of allowing the activity;*
- (ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;*
- (b) any relevant provisions of a national environmental standard, other regulations, a national policy statement, the Regional Policy Statement (RPS), regional plans; and*
- (c) any other matter the Council considers relevant and reasonably necessary to determine the application.*

6.1 S104(1)(a) – Actual and potential effects on the environment of allowing the activity

Section 104(1)(a) of the RMA requires the council to have regard to any actual and potential effects on the environment of allowing the proposed activities. This includes both the positive and the adverse effects.

A detailed description of actual and potential effects on the environment of the proposed activities, and ORC's review of the applicant's assessment of these effects, is provided in Section 7 of the s95 report. In the interest of efficiency and ensuring that this report is easier to read, this report focusses on matters that remained unresolved at the time of writing the s95 report and matters raised in the submissions. These matters have been discussed with the applicant since the close of submissions, and a summary of these discussions is provided in each section below. These sections are grouped using the same headers used in the s95 report (with a new section specifically addressing the risk of bird strike), and have been written assuming that this report being read in conjunction with the s95 report.

On 7 April 2022, the applicant amended the application to realign the proposed road carriageway to avoid any direct impact on roadside wetlands located alongside McLaren Gully Road. There will, therefore, no longer be any direct impact on these wetlands as a result of the proposed road realignment.

6.1.1 General Considerations

Consideration of Alternatives

Many of the submitters raised concerns regarding the high degree of reliance placed on a site selection process undertaken 30 years ago, noting that the legislative environment has changed since then and that there are a greater number of potentially sensitive receptors than there were 30 years ago. Very few of these submitters made any reference to the more recent assessments of alternatives that has been undertaken as described in Section 5 of the s95 report. Several nearby property owners have also expressed concern that the designation was not included on their LIM report, but that is not a relevant matter for me to consider.

A discussion of alternative methods and locations for the proposed activities is provided in Section 6.4.2 of this report.

Secondary approval in proposed consent conditions

Due to there being several areas where the applicant was not able to provide adequate information to support their conclusions regarding adverse effects on the environment, several of the proposed conditions suggested that certain reports/management plans/assessments/trigger levels be submitted to ORC for 'review' and 'approval'. I suggested that it is not appropriate to require ORC to review and approve specialist technical reports (e.g. the Detailed Design), nor was it appropriate to ask ORC to determine suitable consent conditions after the consent is granted. Furthermore, other conditions required ORC to simply certify that the consent condition had been satisfied, which meant that there would be no peer review to ensure that what was being submitted was fit for purpose.

The applicant agreed that an independent peer review panel should be established to review the design, construction, and operation of all stages of the landfill. This includes certification of the detailed design, LMP, and monitoring trigger levels. The requirements for a peer review panel have been added as proposed conditions 4, 5, and 7. Changes have also been made to other proposed conditions to require certification of documents by the peer review panel in place of review and approval by the ORC.

An advice note could be included on the consent to ensure that it is understood that the purpose of the independent peer review panel is not to certify compliance with consent conditions on behalf of ORC, rather it is simply a process whereby the ORC would receive an independent review of the applicant's performance. ORC would make the final determination regarding whether the Consent Holder has achieved compliance, even if this is inconsistent with the opinion of the peer review panel.

I am satisfied that this matter has now been adequately addressed.

6.1.2 Landfill Concept Design Report

Section of 7.4 of the s95 report concludes that the information provided by the applicant describes concepts that are in general accordance with current industry best practice, and that the landfill can be expected to perform to the high standards of modern landfills. Since the s95 report was written, the applicant has since considered Tony Bryce's (Technical Director, Environmental Engineering, T+T) recommended conditions and amended their proposed conditions as described in *Attachment 1 - DCC responses to pre-hearing questions 18 Mar 22*.

Mr Bryce reviewed the revised condition set and the only remaining concern he had was the proposed condition relating to leachate storage volume. As described in *Attachment 2 - L from Anderson Lloyd RE conditions, water permit term 5 Apr 22*, the applicant has since adopted alternative wording that Mr Bryce considers to be appropriate (see condition 19).

I am satisfied that the matters raised in Mr Bryce's review of the landfill concept design report have been adequately addressed.

6.1.3 Landfill Stability

The following section provides a description of further assessment that has been undertaken since the s95 report was written, with further information provided in *Attachment 6 - T+T Technical Review: Smooth Hill Landfill Appendix 5 - Geotechnical Interpretative Report and Appendix 6 - Geotechnical Factual Report 31 Mar 22*.

Geotechnical Investigations

Section 7.5 of the s95 report identified that insufficient geotechnical investigations had been undertaken for the area in the south-east, which was not able to be investigated previously and now comprises about 50% of the overall landfill footprint. The applicant agreed that additional geotechnical investigations will need to be undertaken as part of detailed design, and proposed a new consent condition to ensure that this is done (see condition 8).

Several submitters raised concern that these investigations had not been undertaken before the consent application was lodged, however, Andrew Stiles (Geotechnical Consultant, T+T) considers that the approach of undertaking additional investigations at Detailed Design stage is acceptable and that the proposed condition will ensure that this is done.

Seismic Hazard Assessment

Several submitters raised concerns that the applicant had not considered the Akatore Fault in the original seismic hazard risk assessment. In particular, submitters are concerned that earthquake-related rupture of the landfill liner could result in the release of leachate to groundwater, and that

failure of the toe embankment could result in the sudden release of leachate and landfill waste into the downstream environment.

The applicant had defined 'active faults' as those with recurrence periods less than 2,000 years, meaning that the Akatore Fault (with a recurrence of 3,000 years) was ignored in favour of the Alpine Fault 240 km north-west of the site. The applicant later acknowledged that there had been recent research on the recurrence intervals of the Titri and Akatore Faults, and that this new data would be included in a Site-Specific Probabilistic Seismic Hazard Assessment (SSPSHA) of the site.

Mr Stiles noted that a SSPSHA would provide reassurance that the landfill is adequately designed for seismic risk. The applicant agreed, and proposed a new consent condition to ensure that this is done (see condition 9). Note also that the applicant originally assumed the proposed landfill to have an Importance Level 2¹ (IL2) for the purposes of seismic design, but then revised the rating to IL3², and then to the more appropriate IL4³ in condition 9.

Mr Stiles considers condition 9 to be appropriate to ensure that seismicity issues and potential earthquake effects on the proposed landfill are addressed, provided that the last sentence is revised to be more general in terms of design inputs, namely:

The detailed design and construction of the landfill, in particular for temporary and permanent slopes, must be modified as necessary to incorporate any changes in seismic design parameters identified by the SSPSHA.

I questioned what action would be taken to ensure that all elements of the landfill design are still fit for purpose should the SSPSHA reveal that inappropriate seismic design parameters have been used previously. The Applicant responded by saying that the SSPSHA is unlikely to result in significant changes to the landfill design, but that if significant changes are required, amendment to the consents will be sought under section 127 of the RMA. It would be preferable if a mechanism for amendment of the design was built into the consent conditions to provide more certainty regarding what is and isn't being authorised by the consent.

Slope Stability Analysis

As noted in Section 7.5 of the s95 report, Mr Stiles questioned the appropriateness of some of the slope stability analyses undertaken. Following provision of further information by the applicant,

¹Level 2: Normal structures and structures not covered by other categories, such as timber-framed houses, car parking buildings or office buildings.

²Level 3: Structures that may contain crowds, have contents of high value to the community or pose a risk to large numbers of people in close proximity, such as conference centres, stadiums and airport terminals.

³Level 4: Buildings that must be operational immediately after an earthquake or other disastrous event, such as emergency shelters and hospital operating theatres, triage centres and other critical post-disaster infrastructure.

Mr Stiles agreed with the applicant's proposed approach provided that the cut and fill slope stability assessment is reviewed, and revised as necessary, during Detailed Design.

According to the Applicant, achieving a factor of safety of 1.0 under the seismic stability case is challenging because the proprietary modelling software for the seismic case nearly always produces a FoS <1, but the industry now recognises this and has moved to consider the likely ground displacement of the slope under seismic load. The Applicant considers that the Waka Kotahi Bridge Manual (3rd Edition, October 2018) provides the most technically robust approach to modelling slopes and proposes to apply this to the assessment of slope stability under pseudo-static seismic load (i.e. the modelled earthquake scenario).

The applicant proposed condition 10 to address the stability of proposed cut and fill slopes. Mr Stiles considers this condition to be appropriate to ensure that stability assessment issues are appropriately addressed. Mr Stiles further noted that proposed conditions relating to the establishment of an independent peer review panel are appropriate as they give additional confidence that design and construction issues, including geotechnical concerns, will be adequately addressed.

The Applicant stated that stability assessments undertaken as part of detailed design are unlikely to result in significant changes to the landfill design. Such changes could, for example, involve adding geogrid reinforcement or a shear key into toe bund, which would result in no change to the landfill footprint and landform and have minimal impact on the overall design. Shallower landfill slopes might be required if the analysis were to show the slopes as failing under the seismic load, resulting a reduction in landfill volume. The applicant has stated that if significant changes are required, amendment to the consents will be sought under section 127 of the RMA. However, this does not help to address any issues now with concerns over the design. It would be preferable if a mechanism for amendment of the design was built into the consent conditions to provide more certainty regarding what is and isn't being authorised by the consent.

Conclusion - Landfill Stability

Subject to minor refinement of the proposed conditions as described above and shown in *Attachment 5 - Draft conditions ORC edits 20 Apr 22*, I am satisfied that potential adverse effects relating to geotechnical matters have been adequately addressed and can be managed appropriately through the proposed consent conditions, particularly if a mechanism for amendment of the design was built into the consent conditions to provide more certainty regarding what is and isn't being authorised by the consent.

6.1.4 Effects on Groundwater and Surface Water Quantity

The following provides a description of further assessment that has been undertaken since the s95 report was written, with further information provided in *Attachment 7 - Updated Appendix 9 - Surface Water Assessment 4 Apr 22* and *Attachment 8 Updated Appendix 8 - Groundwater Technical Review 4 Apr 22*.

Groundwater Quantity

Some submitters have raised concern that the abstraction of groundwater and the interception of rainwater recharge from the construction of the landfill will have an adverse effect on the groundwater resource in terms of water quantity.

Recharge to the shallow groundwater system will be reduced as a result of the placement of the landfill, which will prevent direct recharge to the shallow groundwater system from rainfall. Section 7.6 of the s95 report concluded that whilst there are still gaps in the understanding of the shallow and deeper groundwater systems (discussed further below), based on the current level of information, Sally Lochhhead (Senior Hydrogeologist, T+T) considers that the differences in groundwater volumes in the wider catchment as a result of the proposed activities will be minor. This conclusion still stands.

As noted in the Section 7.6 of the s95 report, the applicant has inconsistently applied classifications to watercourses within and downstream of the site. To provide clarity for readers of this report regarding the correct terminology, I have attempted to summarise appropriate classifications on the following plan.

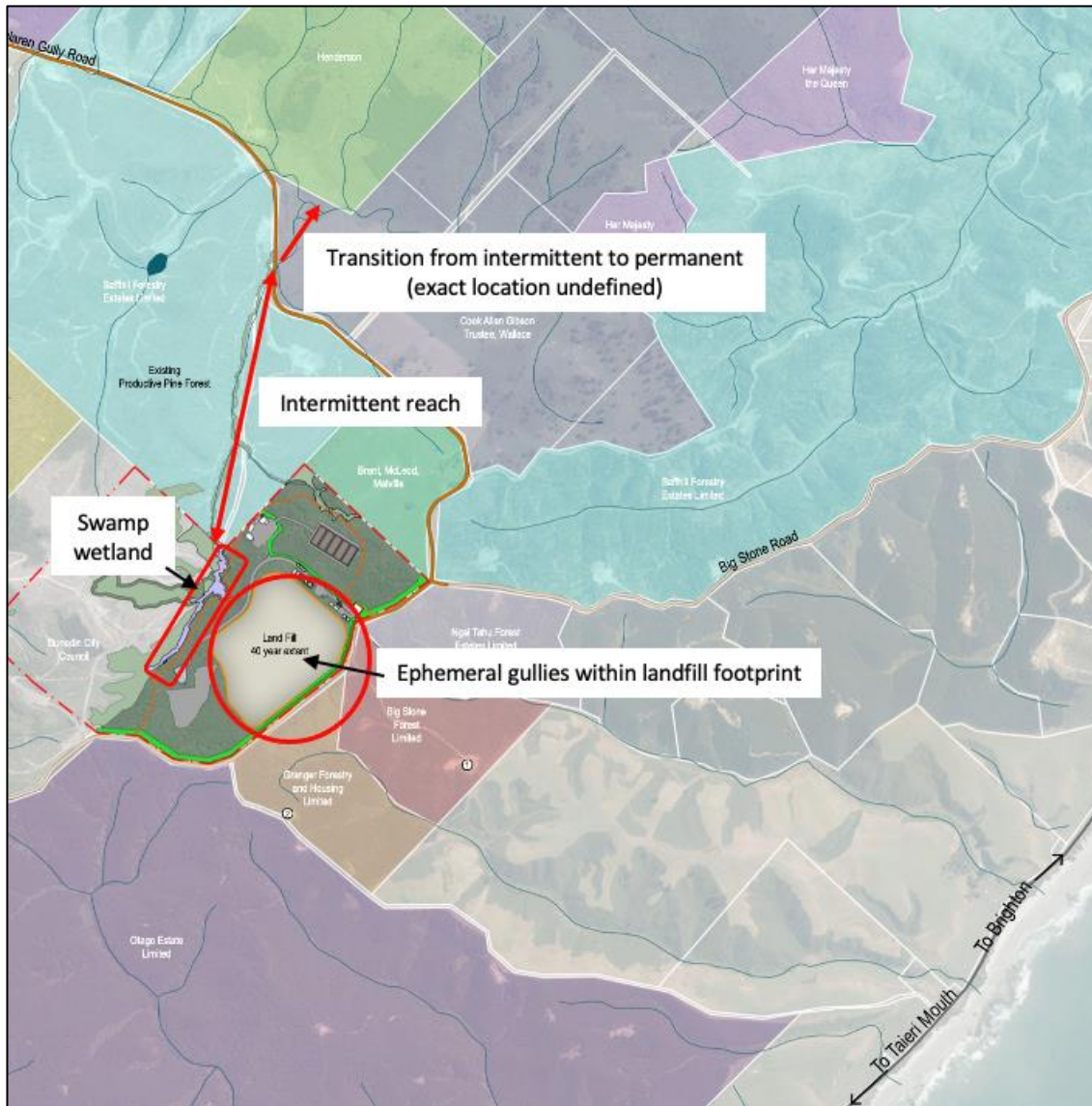


Figure 1: Watercourse classifications within and downstream of the site

In summary:

- The two ephemeral gullies that coalesce at the swamp wetland do not meet the RMA definition of 'river'⁴.
- Water in the swamp wetland is at or near the surface at all times as indicated by the presence of wetland vegetation. This areas meets the classification of a wetland.

⁴ 'River' means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal)

- Between the site and McClaren Gully Road, the unnamed tributary of Ōtokia Creek is intermittent i.e. it is a reach that ceases to flow for some periods of the year because the bed can be above the water table at some times.
- At an undefined location downstream of McClaren Gully Road, the unnamed tributary of Ōtokia Creek transitions from intermittent to perennial (continuously flowing).

Surface Water Hydrology

The construction and operation of the landfill will result in reduced surface water runoff. Subsequent hydrological changes may occur along up to 300 m of the downstream tributary of Ōtokia Creek and the point where this creek transitions to perennial may shift 45 m further downstream, although there is still some uncertainty as to how surface water flows may respond to establishment of the landfill.

In regard to flood flows, Peter Cochrane (Principal Environmental Scientist, T+T) agrees that the proposal will have a less than minor effect on flood flows downstream of McLaren Gully Road because the landfill comprises only a small part of the overall catchment.

Wetland Hydrology

Many of the submitters raised concerns about adverse effects on the hydrological regime of wetlands within and immediately downstream of the designation site. Some submitters also raised concerns about adverse effects on the hydrological regime of the Lower Ōtokia Creek Marsh, which is located 7.6km downstream and is recognised as a Regionally Significant Wetland under the RPW. However, neither the applicant nor Mr Cochrane has identified any reason to believe that this wetland will be adversely affected.

Regarding the wetlands within and immediately downstream of the designation site, the applicant has identified that the proposal will alter the water supply to the swamp wetland (less than 10 m below the landfill toe) and potentially the downstream valley floor marsh wetland. The landfill will effectively intercept up to 20% of the existing annual runoff into the swamp wetland and lower the groundwater table in the vicinity of the swamp wetland. There is also likely to be reduced groundwater recharge to the swamp wetland, but soakage from the base of the Attenuation Pond may mitigate this effect.

Mr Cochrane was unable to conclude if this effect would be minor or less than minor. The applicant was asked to provide further comment and responded that changes in hydrology would not lead to loss of wetland extent. The reasons given were based on the potential ecological response of the wetland to hydrological change, rather than providing further information on the potential change in water levels and water level fluctuations.

With the information provided to date, Mr Cochrane was unable to draw a confident conclusion regarding the effect of reduced surface runoff on wetland hydrology due to the following reasons:

- The magnitude of this effect on surface water flows, water level changes and the swamp wetland (and potentially valley floor wetlands) has not been quantified or evaluated.
- The extent to which soakage from the base of the Attenuation Pond will mitigate this effect is not quantified and there are no details in the application on how the Attenuation Pond would achieve this and maintain recharge in the long-term.
- It is not clear whether the discharge from the Attenuation Pond's low-level outlet will affect the swamp wetland hydrology (and potentially valley floor wetland hydrology).

Furthermore, recommended monitoring of water levels in the swamp wetland has not been included in the proposed consent conditions. I am not, therefore, satisfied that adverse effects on the swamp wetland and valley floor wetland have been adequately addressed.

Conclusion - Effects on Groundwater and Surface Water Quantity

While there are uncertainties regarding effects on surface water and groundwater hydrology/hydrogeology, these effects are, from a hydrological/hydrogeological perspective, likely to be minor within the wider Ōtokia catchment.

However, based on the information provided to date, Mr Cochrane was unable to draw a confident conclusion regarding the effect of reduced surface runoff on the hydrology of the swamp and valley floor wetlands. Resulting adverse effects on wetland ecological values, and my final conclusions, are discussed in Section 6.1.7 below.

6.1.5 Effects on Groundwater and Surface Water Quality

The following provides a description of further assessment that has been undertaken since the s95 report was written, with further information provided in *Attachment 7 - Updated Appendix 9 - Surface Water Assessment 4 Apr 22* and *Attachment 8 Updated Appendix 8 - Groundwater Technical Review 4 Apr 22*.

Section 7.7 of the s95 report noted that the applicant had undertaken a very limited programme of investigations to document groundwater and surface water quality, and so the proposal to collect further baseline data to develop a robust picture of groundwater and surface water quality and to enable the development of trigger levels that are protective of surface water quality is supported. The applicant's proposed consent conditions are not, however, sufficient to provide certainty that monitoring data will be collected in a consistent manner, that it would be sufficiently comprehensive to enable assessment of effects on water quality to be confidently undertaken, or that sampling will be undertaken to appropriate quality assurance standards.

These matters, and more, are discussed further below.

Groundwater Quality

As described in *Attachment 1 - DCC responses to pre-hearing questions 18 Mar 22*, the applicant was asked to address a number of matters relating to groundwater quality raised prior to and since notification. The applicant's response is summarised as follows:

- Groundwater levels monitored on two occasions (17 February 2022 and 1 March 2022) have confirmed the previous interpretation of groundwater flow in the deeper groundwater system, which is in a southeast direction towards the Pacific Ocean.
- Groundwater monitoring at BH301 indicates that downwards vertical hydraulic gradients are present between BH301a and BH301b, confirming the previous interpretation that downward vertical gradients dominate the deeper groundwater system.
- The conceptual groundwater model figures of the shallow groundwater system at the proposed landfill toe shows the low permeability (brown silt) layer to act as an aquitard for the shallow groundwater system. While this layer is considered discontinuous, where it is present it is impeding the percolation of recharge.
- It has been acknowledged that the extent of the shallow aquifer cannot be well defined. However, the low permeability (brown silt) layer was identified in bore BH301, demonstrating that this layer is widespread across the site and likely to be present beneath the majority of the landfill footprint.
- Because the groundwater system responds very slowly to external influences, monitoring at a frequency greater than quarterly for 18 months to establish baseline conditions isn't warranted as significant changes will not be observed on that timescale.
- Given the current condition of groundwater quality (elevated inorganic nitrogen and trace metals), the small contribution from the proposed landfill (leachate leakage) is unlikely to have a meaningful influence on existing groundwater conditions. In the event that changes to existing conditions are identified, the following cascade of steps will be undertaken:
 - Confirm that the change is real and not the result of monitoring error (repeat monitoring round).
 - Revisit the risk profile of the landfill in the context of the change.
 - Report findings to the peer review panel.
 - Revisit the landfill detailed design and operational controls if appropriate.

The applicant provided new and revised consent conditions in response to the matters above.

Ms Lochhead reviewed the applicant's response and revised consent conditions, and provided a revised groundwater technical report (see *Attachment 8 - Updated Appendix 8 - Groundwater Technical Review 4 Apr 22*). Ms Lochhead's key points are summarised as follows:

- Overall, the provision of further information at the middle of the landfill footprint improves the understanding of the conceptual model and reduces the uncertainty in assessing the effects of the landfill on groundwater beneath the landfill. Whilst Ms Lochhead is generally satisfied with the updated conceptual model, the lateral extent of, and depth to, the shallow

groundwater system across parts of the landfill footprint is still not fully understood. This means the potential effect on shallow groundwater quality from leakage from the landfill is not well known.

- Whilst the applicant has not provided any further interpretation of the effects of the landfill on the deeper groundwater system, they have inferred that the deeper groundwater system is a separate groundwater 'unit' and, by implication, the effects of the landfill on the deeper groundwater system will be less than the effects on the shallow groundwater system. Ms Lochhead agrees with this.
- Ms Lochhead acknowledges that potential leachate ingress to the deeper groundwater system could occur, but that it is less likely given the location of the deeper groundwater underlying the low permeability layer and the depth to the deeper groundwater at the site. However, the unknown extent and the efficacy of the low permeability layer means that there is some residual uncertainty about the impact on the deeper groundwater quality from the landfill.
- Based on the current level of information, Ms Lochhead was unable to conclude if the potential effects on the quality of groundwater in the shallow groundwater system would be minor or less than minor because the presence and depth to shallow groundwater across the wider landfill footprint is not well known. The monitoring bore piezometers at BH301 do not include monitoring of the shallow groundwater system, which means all data for the shallow groundwater is limited to predominantly the north-western periphery of the landfill footprint.
- The frequency of groundwater monitoring proposed (quarterly monitoring of groundwater for 18 months) is insufficient to understand groundwater quality and variability. It will result in a dataset containing six data points and would augment an already limited data set of a maximum of five sampling rounds.
- The applicant has provided details of monitoring bores GW 1 to GW 6, and BH202 that will be used to establish the derivation of the groundwater trigger levels prior to landfill construction. Ms Lochhead identified that not all of these locations achieve the desired outcomes, but that the installation of another shallow bore downslope of GW2 and in line with the landfill toe would address the concerns regarding the shallow groundwater monitoring at GW2 and GW5. The drilling of another deeper bore along Big Stone Road bore is essential for monitoring of the downgradient deeper groundwater system. Condition 22 should be repeated to reflect the drilling of one additional monitoring bore on Big Stone Road and one additional monitoring bore downgradient of GW2.
- In addition to the above, a new condition is required to include the monitoring of rainfall data at the site over the same pre-construction period (18 months) as for the groundwater monitoring. On-site rainfall data should be compared with the groundwater level data at each monitoring bore to identify when recharge from rainfall occurs on the groundwater levels.
- The frequency of groundwater monitoring proposed (quarterly for 18 months) is insufficient to understand groundwater quality and variability. For instance, the Groundwater Report comments on high concentrations of nitrate in groundwater for some bores and attributes

those to the catchment's forestry activities (fertiliser application, clearing of gorse). Presuming that these are in fact the cause, these activities will no longer occur in the catchment, and groundwater quality may change as a result. This underpins the need for the establishment of a good baseline of water quality from which to monitor and assess any changes to water quality that may be brought about by the construction and operation of the proposed landfill. Condition 24 is supported in principle but with the amendment to monthly monitoring of groundwater quality.

- Attachment 1 of the applicant's proposed consent conditions is not well developed and this needs to include units of measurement and to specify whether it refers to the total fraction or dissolved fraction of specific parameters. Some key parameters such as Total Organic Carbon, Total Kjeldahl Nitrogen, Total Phosphorus should also be included.
- It is expected (in conditions 25 and 26) that specific trigger levels will be developed for each monitoring parameter and monitoring bore due to the variation in the groundwater quality between the shallow and deeper groundwater systems.
- Condition 26 is supported in principle with the following addition:
*26(c) Protection of the receiving environment downstream **and downgradient** of the landfill...*
- The trigger levels need to be developed in a manner that is protective of the values in the receiving environment, rather than the context of the current regime.

The applicant amended conditions 22 and 23 on 5 April 2022 to add an additional new monitoring well in the original GW1 location (see *Attachment 2 - L from Anderson Lloyd RE conditions, water permit term 5 Apr 22*). Ms Lochhead has advised that these two new conditions only partially address the matters raised in para 76 and 79 of her report (see *Attachment 8 - Updated Appendix 8 - Groundwater Technical Review 4 Apr 22*) because she also recommended an additional monitoring bore down gradient of GW2.

Surface Water Quality

As described in *Attachment 1 - DCC responses to pre-hearing questions 18 Mar 22*, the applicant was asked to address a number of matters relating to surface water quality raised prior to and since notification. The applicant's response is summarised as follows:

- The baseline data collected will be interpreted to develop trigger levels as set out below:
 - Surface water: Development of trigger levels will include review of available data and based on this, plus available information on earthworks construction and the landfill, key parameters will be identified for which trigger levels will be derived.
 - Suspended sediment in surface water: For typical flows, the trigger level will be the upper limit of turbidity values recorded during baseline monitoring or the RPW Schedule 15 numerical limit for turbidity in receiving water, whichever is higher. For flood events (flow is out of channel) the trigger level is to be based on visual inspection with no significant increase in turbidity (greater than 30% in turbidity at the downstream boundary of the site over that of adjacent contributing catchments).

- Groundwater and surface water metals and nutrients: Development of trigger levels will include review of available data. A trend analysis will be adopted to set trigger levels for key parameters, accounting for changing land use over time, slow rate of change, and variability in baseline water quality.
- The objectives of the trigger levels will be;
 - To ensure construction management controls are effective;
 - To identify potential leachate discharge at or near source and the need for remedial actions;
 - To protect the receiving environment downstream of the landfill.
- The trigger levels will be identified as indicators for identification of leachate or construction activity discharges. The sampling of surface water on a weekly basis is considered to be an extremely intensive regime that will allow early identification of any issues.
- For groundwater and surface water monitoring during operation of the landfill, basic analytical suites will be adopted for standard sampling rounds, with full analytical suites undertaken at least once per year.

Mr Cochrane noted that continuous monitoring of water quality in the Attenuation Basin and fitting the low-level outlet with a shut-off valve would be an appropriate way of managing the risk of leachate contamination in the Attenuation Basin, but that the draft consent conditions were silent as to how this would be implemented. The applicant responded as follows:

- During the Stage 1 works, continuous monitoring of the Stage 1 sediment retention pond (SRP1) is proposed for conductivity, pH and Ammonia prior to discharge to the Ōtokia Creek. During subsequent stages, continuous monitoring will occur at the attenuation basin.
- A seepage or discharge of leachate to the sediment pond or attenuation basin will result in elevated levels/concentrations of water. The continuous monitoring via probes in the pond or basin will pick up the increase and if it exceeds one or more of the set trigger levels, will activate an alarm. Once the pond and basin are constructed, monitoring of water quality will be undertaken to allow establishment of appropriate trigger values before the first waste is accepted at the landfill. Values must be sufficiently above typical values to avoid frequent false alarms due to natural variation while sufficient to detect leachate discharges.
- In the event of a trigger level exceedance an alarm will be activated at site facility and will also notify key site personnel via a text message to undertake response procedures as set out in the LMP. The response procedures will include:
 - Visual inspection to see if there is any obvious reason for the alarm and retesting to confirm exceedance of trigger levels.
 - Shutting off the outlet from the sediment retention pond or attenuation basin to prevent discharge to the downstream system and redirection of water to the leachate collection system until which time conditions have reduced below the trigger level or it can be

demonstrated that the effects of discharging water will not need the surface water trigger levels at monitoring points SW1 – SW7.

- Undertaking an additional monitoring round following any exceedance.
- Undertaking remedial actions to address leachate discharge.
- Remedial works will be set out in the LMP but are expected to include:
 - Confirmation of the cause and source of the leak.
 - Lowering the leachate level in the landfill and repairing the cap where seepage has occurred.
 - Review of capping (construction and design) and leachate management to confirm appropriateness and whether modification is required.

The applicant provided new and revised consent conditions in response to the matters above.

Mr Cochrane reviewed the applicant's response and revised consent conditions, and provided a revised groundwater technical report (see *Attachment 7 - Updated Appendix 9 - Surface Water Assessment 4 Apr 22*). Mr Cochrane's key points are summarised as follows:

- Condition 26(c) states that the purpose of the trigger levels is to “not have an adverse effect on water quality *when compared with the current regime*” (Mr Cochrane's emphasis). This not supported as it does not take into account the values in these surface water bodies that need to be considered when setting water quality objectives (in this case trigger levels) that protect surface water quality and does not recognise that the current regime may be resulting in adverse effects on water quality.
- Regarding condition 26, and as noted above, it is Mr Cochrane's expectation that specific trigger levels will be developed for each monitoring parameter and monitoring location.
- Condition 26 sets out two additional assessment trigger level criteria for suspended sediment including, “*Trigger levels for suspended sediments in surface water (SW1 – SW7) for flood events (where out of channel flows occur), shall be based on visual inspection with a no greater than 30% increase in turbidity at the downstream boundary of the landfill site over that of adjacent contributing catchments*”. This criterion will most likely result in a conspicuous change in colour or visual clarity of the receiving water as a result of the discharge and accordingly would probably contravene s107(1) of the RMA. This criterion is also potentially inconsistent with condition 30.
- Condition 27 covers continuous monitoring of electrical conductivity, pH and ammonia. Given that temperature and sediment could also impact on surface water bodies, Mr Cochrane would recommend continuous monitoring for temperature and turbidity for the Sediment Retention Pond for Stage 1 and for the Attenuation Pond.
- Condition 28 in its current form, along with the parameters set out in Table 1 of Attachment 1 of the applicant's proposed consent conditions is still insufficient to provide certainty that monitoring data will be collected in a consistent manner. Specific areas of concern that will need to be addressed include:

- The adequacy of one additional monitoring round for a full suite of parameters within 1 week of a trigger level exceedance. This appears to be a blunt response to a trigger level exceedance and may do little to further understand or monitor the effects of an exceedance.
- The statement, “*Basic suite of parameters set out in Attachment 1 excluding sediment and turbidity to be monitored, except that the full suite of parameters to be monitored in one weekly monitoring cycle per year*” is confusing and requires redrafting.
- A specific action for surface water monitoring includes, “*Sediment controls shall be adjusted so that the site does not contribute a disproportionate sediment load downstream in comparison to the catchment above McLaren Gully Road*”. Confining the assessment to a relative sediment load or the current regime does not recognise the values in these surface water bodies, nor recognises that these values may be compromised by other land uses or discharges in the catchment. This approach is not supported.
- Specific matters that need to be addressed or clarified by in Attachment 1 of the applicant’s proposed consent conditions include:
 - The inclusion of Total Phosphorus as a monitoring parameter, so that the total phosphorus load (both dissolved and particulate) can be monitored.
 - The inclusion of Total Kjeldahl Nitrogen as a monitoring parameter, so that the total nitrogen load can be monitored.
 - The inclusion of water level monitoring in both groundwater monitoring bores and the Attenuation Pond, including the establishment a rating curve for the Attenuation Pond’s low-level outlet to enable discharge rates and volumes from the Attenuation Pond to be calculated.
 - Continuous monitoring of turbidity in the Attenuation Pond and the establishment of a trigger level for turbidity. Consideration of sufficient monitoring of suspended sediment to enable a reliable relationship between turbidity and suspended sediment to be made, to enable sediment loads and concentrations to be calculated.
 - Consideration of continuous monitoring of temperature in the Attenuation Pond to ensure that downstream environments are not impacted by thermal stresses brought about by the temperature of water discharging from the Attenuation Pond.
- Condition 29 refers to AS/NZS 5567.11:1998, but this refers to monitoring of groundwater, and further references will need to be included to cover continuous monitoring and monitoring of surface water.
- Condition 30 appears to address s107 matters but refers to a “conspicuous change in water *quality*” (Mr Cochrane’s emphasis). Mr Cochrane assumes this should be “colour or clarity visual” and suggest that it be revised to be consistent with the wording or intent of s107.
- Condition 60 requires the preparation of a freshwater and wetland monitoring and management plan. Mr Cochrane supports the inclusion of monitoring of water levels in the wetlands.

- Condition 82 (groundwater and surface water quality) – item g (a disproportionate sediment load) does not account for values in the stream or surface water body, nor recognises the current values may be compromised by other land uses or discharges in the catchment.

Conclusion - Effects on Groundwater and Surface Water Quality

In regard to effects on groundwater quality, as the information currently stands, Ms Lochhead considers that some uncertainty remains with the conceptual hydrogeology model and there is a gap in knowledge. In particular, Ms Lochhead has doubts on the efficacy of the low permeability stratum acting as a barrier between the shallow and deeper groundwater systems but acknowledge that the potential for contaminant movement to occur into the deeper groundwater system from the landfill is low due to the intact nature of the Henley Breccia and the preferential horizontal flow paths.

The shallow groundwater system is still not well understood, which means that there is uncertainty regarding the risk of contamination of the shallow groundwater system. Further information on the presence or absence of shallow groundwater above the low permeability stratum within the landfill footprint in areas where no investigations have been undertaken would help, and further development of the proposed consent conditions would provide greater confidence regarding the potential effects on groundwater quality. This information was requested, but not provided.

Regarding surface water, the Applicant's draft consent conditions that set out how monitoring will be carried out, how objectives for the trigger levels will be established, and how exceedances of trigger levels will be responded to, are not sufficiently developed to ensure that the effects on surface water quality will be managed appropriately. I do not, therefore, have confidence that adverse effects on groundwater and surface water quality will be adequately avoided, remedied, or mitigated.

Amendments to consent conditions to address these outstanding matters are shown in *Attachment 5 - Draft conditions ORC edits 20 Apr 22*. Some of these recommendations have already been rejected by the Applicant and so I must proceed on the basis that these recommendations will not be adopted. I do not, therefore, have confidence that adverse effects on groundwater and surface water quality will be adequately avoided, remedied or mitigated appropriately.

6.1.6 Effects on Air Quality

Highly Odorous Waste

Many of the submitters raised concerns that the proposed activities will result in offensive and/or objectionable odours that will be detectable not only in the immediate vicinity, but also at locations as far away as Brighton and Ocean View. Section 7.8 of the s95 report noted that the applicant's assessment of odour relies heavily on the adoption of best practice measures, and that Richard

Chilton (Principal Air Quality Scientist, T+T) considered additional consent conditions would be appropriate to control the receipt and management of highly odorous wastes. In response, the applicant amended what is now condition 39. Mr Chilton reviewed this revised condition and considered it to be reasonable, but noted that the list of what constitutes 'highly odorous wastes' is too limited, and should be reworded as follows:

For the purposes of this condition, "highly odorous wastes" include, but are not limited to:

Provided that the applicant adopts this minor amendment then I am satisfied that adverse effects associated with highly odorous wastes have been adequately addressed.

Odour (and dust) Beyond Boundary

Section 7.8 of the s95 report noted that the Applicant's proposed condition 34 (which has since been renumbered condition 44) should be more appropriately worded in line with MfE guidance⁵. The applicant agreed and reworded this condition so that it now reads:

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

As such, the air discharge permit (if granted) will not authorise the adverse effects associated with odour and dust that many of the submitters raised concerns about. Furthermore, I note that proposed condition 80 requires the applicant to maintain a complaints register which, when requested, will assist the Consent Authority's compliance staff in determining whether the applicant has been maintaining compliance with the Applicant's proposed condition 44.

LFG Flare Conditions

Several of the submitters raised concerns about adverse effects resulting from the discharge of LFG. Mr Chilton noted that there was no condition relating to the operation of the LFG, and suggested that the following condition be added after (renumbered) condition 53:

- (a) A principal flare(s) must be designed, installed, operated and maintained in accordance with the requirements of Regulations 25, 26 and 27 of the 'Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004' (NES-AQ).*
- (b) Subject to the requirements of condition XX(a), the principal flare(s) must be operated at all times unless it has malfunctioned or is shut down for maintenance.*
- (c) A backup landfill gas flare(s) that meets the requirements of Regulation 27(3) of the NES-AQ must be operated if the principal flare is not operating.*

Provided that the applicant adopts this condition then I am satisfied that this issue has been adequately addressed.

⁵MfE, 2016, Good Practice Guide for Assessing and Managing Odour. Ministry for the Environment

Landfill Management Plan

Regarding the Applicant's proposed condition 82, Mr Chilton has identified that condition Air Quality (g) needs to be amended to remove the reference to electricity generation because this has been explicitly excluded from the application and has not been assessed. Provided that the applicant adopts this minor amendment then I am satisfied that this issue has been adequately addressed.

Conclusion - Effects on Air Quality

Subject to minor refinement of the proposed conditions as described above, I am satisfied that adverse effects on air quality will have been adequately addressed and can be managed so that there will be no noxious, dangerous, offensive or objectionable odour or dust to the extent that it causes an adverse effect at or beyond the boundary of the site.

6.1.7 Effects on Ecological Values

The following provides a description of further assessment that has been undertaken since the s95 report was written, with further information provided in *Attachment 9 - Updated Appendix 11 - Ecology Technical Review 5 Apr 22*.

Freshwater Ecology

Many submitters have raised concerns about water quality effects on fish within and downstream of the site. Mike Lake (Senior Freshwater Ecologist, T+T) agrees with the applicant that eels are probably the only fish species that are likely to be able to persist in the intermittent unnamed tributary of Ōtokia Creek upstream of McClaren Gully Road. Mr Lake also agrees that this stretch has moderate ecological value, and agrees that the overall level of water quality effects on instream ecological values will likely be very low (assuming adequate monitoring and mitigation measures are in place - further discussion regarding effects on water quality can be found in Section 6.1.5 above).

Many submitters have also raised concerns about reduced flows in the catchment impacting on fish within and downstream of the site. The proposal has the potential to result in the loss of stream and wetland habitat as a consequence of reduced flows in the catchment and subsequent hydrological changes may occur along up to 300 m of the downstream tributary of Ōtokia Creek (and associated swamp and valley floor wetlands). The point where this creek transitions to perennial may shift 45 m further downstream. There is, however, still some uncertainty as to how surface water flows will respond to establishment of the landfill and so a definitive conclusion regarding the magnitude of adverse effects cannot be made (see further discussion regarding effects on hydrology can be found in Section 6.1.5 above).

Josh Markham (Senior Terrestrial Ecologist, T+T) was unable to draw a confident conclusion regarding the effect of reduced surface runoff on the hydrology of these wetlands, and noted that there still isn't enough specific information on the tolerance of these wetlands to any potential

alteration of hydraulic regime to make a conclusion regarding the quantum of ecological effects. Mr Markham concluded that the residual ecological effect on the swamp and valley floor wetlands appears, therefore, to be understated without sufficient supporting information. It is, however, possible that appropriate conditions could require pre and during operation monitoring of these wetlands and the use of offset and compensation tools to appropriately address residual adverse effects.

Condition 60 requires that a Freshwater and Wetland Monitoring and Management Plan is developed and implemented to “ensure residual or ongoing adverse effects to any freshwater or wetland environment or indigenous species that arise from the exercise of this consent are effectively remedied or otherwise managed”. Mr Markham considers that this plan could be implemented to ensure that any stream or wetland habitat loss is offset or compensated for, but note that monitoring of water levels alone (ref. conditions 28 and 60) cannot be used to quantify downstream shifts in intermittent or permanent watercourse or changes in the extent of wetland habitat because it is unclear how appropriate water level triggers would be identified. Directly measuring changes in the extent of stream and wetland habitat would be a simpler and more accurate approach and, therefore, a suitable method for achieving this should be specified in condition 60. The wording “to be undertaken in the event that water level monitoring undertaken under condition 28 identifies an exceedance of trigger levels” should also be removed from condition 60(c).

Condition 60 requires that the Freshwater and Wetland Monitoring and Management Plan be submitted 3 months prior to commencement of construction. Mr Markham considers that this will not allow for sufficient baseline data to be collected, and that at least one round of baseline surveys will need to be completed (at an appropriate time of year) prior to commencement of construction. The plan should, therefore, be submitted 3 months prior to commencement of monitoring rather than commencement of construction.

Further comment on condition 60 is given below under the ‘*Terrestrial ecology*’ sub-heading.

Mr Markham also noted that the residual effect on the wetland along McClaren Gully Road appears to be understated without sufficient supporting information. However, on 7 April 2022, the Applicant amended the application to realign the proposed road carriageway to avoid any direct impact on this wetland and so these comments are now redundant. A land use consent is, however, still required for the road upgrades under Regulation 54 for vegetation clearance and earthworks within 10 m of a natural wetland, which may result in indirect effects on these roadside wetlands.

Some submitters also raised concerns about adverse effects on fish and other instream and riparian values in the Lower Ōtokia Creek Marsh, which is located 7.6km downstream and is recognised as a Regionally Significant Wetland under the Regional Plan: Water. However, neither the applicant nor Mr Lake or Mr Markham have identified any reason to believe that this wetland will be adversely affected.

Terrestrial Ecology

Many of the submitters raised concerns about adverse effects on lizards, avifauna, wetlands, and vegetation, particularly within the designation site. There is still disagreement between the Applicant and Mr Markham about the level of detail required in regard to the scale of these effects. However, Mr Markham notes that even if the current ecological values are combined with a greater magnitude of effect, the overall level of ecological effects will still be manageable and able to be offset or compensated for. It is, therefore, possible that agreement could be reached on appropriate conditions that require the use of offset and compensation tools to appropriately address residual adverse effects.

The applicant used a Biodiversity Offset Accounting Model (BOAM) to quantify the offset required for the wetland loss along McLaren Gully Road. As noted above, the applicant has since amended the application to realign the proposed road carriageway to avoid any direct impact on this wetland and so Mr Markham's comments in relation to this are, therefore, now largely redundant.

The applicant did not provide BOAM's for potential residual effects on lizards, avifauna, or terrestrial/freshwater habitats. Consequently, Mr Markham recommends that the Freshwater and Wetland Management Plan, the New Zealand Falcon Management Plan, and the Lizard Management Plan each include a residual effects assessment using BOAM or BCM modelling, and that these plans define offset or compensation outcomes that appropriately address any residual effects. Mr Markham also recommended a standalone condition requiring that residual adverse effects on freshwater, terrestrial and wetland ecology are offset and/or compensated using the effects management hierarchy and methodologies as set out in industry guidelines:

Residual adverse effects associated with construction and/or operational activities on freshwater, terrestrial and wetland ecology must be offset and/or compensated using the effects management hierarchy and methodologies as set out in Stream Ecological Valuation (SEV): a method for assessing the ecological functions of Auckland Streams (October 2011), Biodiversity Offsetting Under the Resource Management Act: a guidance document (September 2018), A Biodiversity Compensation Model for New Zealand: a user guide – version 1 (October 2021).

The applicant rejected these recommendations, and instead added an advice note with similar intent to conditions 59 (Restoration Management Plan) and 60 (Freshwater and Wetland Management Plan):

Advice note – where offsetting or compensation measures are applied, these shall follow best practice methods such as those set out in Stream Ecological Valuation (SEV): a method for assessing the ecological functions of Auckland Streams (October 2011); Biodiversity Offsetting Under the Resource Management Act: a guidance document (September 2018); or A Biodiversity Compensation Model for New Zealand: a user guide – version 1 (October 2021), or updated similar guidance. Where biodiversity offset

accounting/compensation modelling approaches (BOAM/BCM) are used, the same metrics used in the development of the models shall form the basis of monitoring standards as may be required.

The key difference here is that Mr Markham's standalone condition is more specific in that all residual adverse effects on freshwater, terrestrial and wetland ecology must be offset and/or compensated, whereas the applicant's advice note may result in some uncertainty regarding when/where offsetting/compensation is required. Mr Markham maintains that because each management plan is standalone, his recommendations should be upheld for the sake of consistency, for ease of the peer review and certification processes, and for ease of compliance, and that the standalone condition above should also be reinstated.

It should be noted that:

- The purpose of the Restoration Management Plan is to address the loss of or impact to freshwater, wetland and terrestrial environments caused as a result of construction of the landfill and road upgrades, to achieve no net loss of ecologically significant habitat/features in terms of type, amount, or condition.
- The purpose of the Freshwater and Wetland Monitoring and Management Plan is to ensure residual or ongoing adverse effects to any freshwater or wetland environment or indigenous species that arise from the exercise of this consent are effectively remedied or otherwise managed.
- The purpose of the Eastern Falcon Management Plan is to ensure any adverse effects on any New Zealand Eastern falcons nesting at the site during construction are avoided or mitigated.
- The purpose of the Lizard Management Plan is to ensure any adverse effects to lizards during construction are effectively avoided or otherwise managed.

The Applicant has provided reasons why they have adopted different management targets for each of these management plans (see *Attachment 1 - DCC responses to pre-hearing questions 18 Mar 22*). Mr Markham and Mr Lake consider these objectives to be acceptable provided that the wording "ecologically significant" is removed from the Restoration Management Plan condition to ensure that all residual impacts are offset/compensated for (pers. comm. 8 April 2022).

I am satisfied that the Applicant has adequately explained why Radiata Pine / Gorse / Cocksfoot-Yorkshire Fog Treeland – 33.88 ha, Gorse Scrub – 0.41 ha and Exotic Grass Grassland and Fodder Crop Herbfields – 0.69 ha have been removed from condition 56.

Conclusion - Effects on Ecology

Regarding effects on instream ecology, a considerable level of uncertainty exists regarding the degree of hydrological alteration that may occur. This uncertainty could be managed though consent conditions requiring hydrological and ecological monitoring in the receiving environment

and clearly identified adaptive management responses. The applicant's proposed consent conditions do not, however, currently provide for this.

Regarding effects on terrestrial ecology, there is a low degree of confidence with regards to the Applicant's magnitude and level of ecological effects conclusions. This means that an assessment of the overall offset package is unable to be finalised, and a conclusion is unable to be reached as to whether it is appropriate and will result in no net loss (and a preferable net gain) in ecological/biodiversity values. As described in Section 7.9 of the s95 report, *Attachment 1 - DCC responses to pre-hearing questions 18 Mar 22* and *Attachment 9 - Updated Appendix 11 - Ecology Technical Review 5 Apr 22*, further information has been requested but not supplied to the satisfaction of Mr Markham.

Amendments to consent conditions to address these outstanding matters are shown in *Attachment 5 - Draft conditions ORC edits 20 Apr 22*. Some of these recommendations have already been rejected by the Applicant and so I must proceed on the basis that these recommendations will not be adopted. I do not, therefore, have confidence that adverse effects on ecological values will be adequately avoided, remedied, mitigated, offset or compensated for.

6.1.8 Risk of Bird Strike

Many submitters, including Dunedin International Airport Ltd, the New Zealand Airline Pilots Association and Otago Aero Club raised concerns about the risk to aviation safety from increased bird activity in well-used flight paths.

The Applicant provided the Draft Smooth Hill Bird Management Plan (June 2021) to demonstrate how bird density and populations within the flight path of Dunedin International Airport will be managed. This includes a Preliminary Bird Hazard Assessment prepared by Avisure in May 2021 (referred to hereon in as the bird hazard assessment). The bird hazard assessment was limited by a range of factors and accordingly it was considered preliminary. More surveys, updated information, and a review of key risk factors (e.g. whether putrescible waste will be removed from the waste stream) were considered by the author to be necessary.

Section 1.2.1 of the bird hazard assessment notes that:

The New Zealand Civil Aviation Authority (NZ CAA) and International Civil Aviation Organization (ICAO) "... recommends that refuse dump sites be located no closer than 13 km from the airport property" (NZ CAA, 2008). These statements are guidance only and not regulated. The guidance applies to all Part 139 aerodromes, including Dunedin Airport (DUD). Therefore, landfills within 13 km of airports require careful planning, monitoring, and operating to mitigate potential bird strike risks. In some situations, landfill projects have been rejected by local planning authorities because the risk was assessed as unacceptable.

The bird hazard assessment states that without appropriate mitigation, that there is a very high risk to aviation safety from the proposed Smooth Hill Landfill. Mr Markham reviewed the Draft Smooth Hill Bird Management Plan and stated that it provides a good baseline but noted that it doesn't provide confidence that bird density and populations will be sufficiently controlled.

It is important to not let bird populations become established, because if they do become established then they are very hard to control. Proposed methodologies for controlling bird populations onsite include the reduction of the tipping face (active and open landfill area), keeping any grassed areas long to block the birds' line of sight, daily cover of topsoil to reduce bird attraction, and the processing of certain types of waste before and on arrival at the landfill.

Mr Markham considers that it is important not to limit the management plan to a select species of birds (i.e. Black backed Gulls) but define the parameters in what would classify a species and population to need control to zero densities i.e. it is appropriate to include all bird species over 50 grams in body weight as this size and above would cause the greatest risk in terms of bird strike on aircraft.

Mr Markham recommended two consent conditions to ensure that bird density and populations will be sufficiently controlled. The applicant was generally agreeable with the first (with minor changes - see proposed condition 65).

In recognition that long-life putrescible waste landfills are an attractor to birds, the applicant then proposed further conditions addressing the reduction of putrescible waste from the waste stream to be received at Smooth Hill (see proposed conditions 62 - 64). Mr Markham has recommended that the wording "to the extent practicable" should be removed from conditions 63 and 64 as this is not enforceable. I agree with this recommendation but note that achieving compliance with this condition will require a level of treatment prior to discharge that the applicant has not proposed.

The second condition that Mr Markham recommended stated:

All bird species specified in the Bird Management Plan greater than 50 g feeding at the landfill or accessing waterbodies must be managed to zero densities daily. If this is not achieved over 3 consecutive days, then the landfill operation must cease, and material covered (including netting if necessary) until zero densities of birds over 50 g can be reached over 5 consecutive days.

The Applicant has rejected this consent condition on the basis that the Draft Bird Management Plan includes measures to limit birds greater than 50g to zero densities and escalating responses if these are breached. The ultimate requirement if more than 12 breaches of specified thresholds occur in any 12-month period will be to position a net over the landfill to ensure no further bird activity is possible, unless an aviation risk assessment indicates that the risk can otherwise be managed to an acceptable level. There is no further detail regarding what this risk assessment

would comprise of, within what timeframe it must be undertaken, or what is determined to be ‘an acceptable risk’.

Mr Markham maintains that the recommended condition should be upheld to ensure that in the event that the operational plan fails and bird numbers/densities increase, the population can be managed down to zero densities and the risk of any bird population becoming established can be eliminated. I agree with this recommendation.

Conclusion

I am not satisfied that the risk of bird strike has been adequately assessed, or that the Applicant’s proposed consent conditions will ensure that the very high risk to aviation safety will be avoided. Mr Markham’s recommended consent condition requiring landfill operations to cease in the event that bird species greater than 50 g are not managed to zero densities for 3 consecutive days would provide greater assurance, but I understand that the Applicant is not agreeable to this.

I do not, therefore, have confidence that the very high risk to aviation safety will be adequately avoided, remedied, mitigated, offset or compensated for.

6.1.9 Effects from Noise

While noise might not usually be a matter for the ORC to consider, I note that several submitters have raised concerns about adverse effects from noise generated within the landfill site and so I have addressed it.

One of the conditions that applies to the site through the designation states:

Noise generated by any activity on the site shall comply with the following standards within 50 metres of the nearest house existing at the date on which the designation becomes operative - 55Dt/40Nt dBA. (NB These levels are subject to an adjustment of minus 5dBA for noise emissions having special audible characteristics).

The Applicant has demonstrated that noise levels from activities within the designation will be compliant with these designation noise limits at the closest existing residential activity (R10). I am, therefore, satisfied based on the information provided that potential adverse effects from noise have been adequately addressed and can be managed appropriately.

6.1.10 Landscape, Natural Character and Visual Effects

Vivian Espie (specifically Ben Espie) was engaged to review the applicant’s Landscape and Visual Assessment Report on behalf of ORC and noted that it was very comprehensive and follows a clear structure. Full clarity and understanding cannot, however, be gained without a visit to the site and its surrounding vicinity and so Mr Espie undertook a site visit along with the applicant’s

consultant on 11 March 2022. Key points from Mr Espie's peer review report (attached) are discussed below. Mr Espie has made some comments regarding the proposed road realignment but has focused on the landfill itself because it is understood that the road is the focus of the landscape review being undertaken by Luke McKinlay on behalf of Dunedin City Council (refer to the DCC's s42A report, which will be circulated at the same time as this report).

Landscape Effects

Regarding effects on the landscape, Mr Espie's comments are summarised below:

- Road upgrade: Mr Espie generally agrees that there will be a moderate adverse landscape effect, reducing to low over time, but finds that the adverse effect would be better described as moderate-low in the short term rather than moderate. Primarily, this is because the majority of the road formation works are within the legal road corridor and, therefore, anticipated. A hypothetical road formation that remains entirely within the legal road corridor could have very similar effects to that which is proposed.
- Landform effects: Mr Espie agrees that there will be a moderate-high adverse landscape effect, reducing to low over time. The factors contributing to this effect relate to the significant landform changes and raw state within the site itself during the operational phase. The natural landform will be very significantly modified but this effect will be localised to the footprint of the works themselves, which sit within the designation area. The ultimate landform will appear congruent with surrounding topography.
- Vegetation effects: Mr Espie generally agrees that there will be a low adverse landscape effect during the operational phase, reducing to a neutral effect in the long term. The factors contributing to this effect relate to sizable dynamic changes to vegetation cover during the operational phase and then reinstatement at the time of retirement. Following retirement, however, the effect on vegetation would be better described as a low-degree positive effect rather than neutral. This is because of the bands of native vegetation (kānuka and tōtara) that will adjoin Big Stone Road and run through the site and the managed and expanded native wetland areas.
- Landscape character effects: Mr Espie agrees that there will be a moderate-low adverse landscape effect during the operational phase, reducing to a low effect following retirement. While the footprint of the proposed activity itself (including ancillary activities) will change markedly in terms of landscape character, this effect is contained, is within the designation area, and will sit in a broader area of a landscape that is defined by extensive dynamic forestry activity and is not an Outstanding Natural Landscape or Significant Natural Landscape (DCC 2GP), or Highly Valued Landscape (Partially Operative RPS).

Natural Character

Regarding effects on natural character, Mr Espie agreed that 0.49 ha of wetland planting and restoration within the subject site to help offset the loss of 16.5 m² of roadside wetland would represent an overall positive effect (of a low degree). On 7 April 2022, the applicant amended the application to realign the proposed road carriageway to avoid any direct impact on the roadside

wetland but stated that the restoration of 0.49 ha of wetland would proceed as planned regardless. There may, therefore, be an overall positive effect on natural character that are greater than that assessed by Mr Espie.

Visual Effects

In terms of the broader landscape, the site is particularly hidden. It will potentially be visible from distant elevated locations such as Saddle Hill (11 km to the northeast) or the Maungatua ridge (15 km to the northwest). Realistically, however, surrounding forestry and the distance of these views will mean that the proposed activity is indiscernible from viewpoints such as this.

In regard to visual effects from the roads, Mr Espie agrees with the applicant that:

- Prior to the landfill becoming established, the most apparent visual change along McLaren Gully Road and Big Stone Road to the entrance of the site will be the upgrade of the existing road from SH1. This will replace a gravel road with a two-lane sealed road that retains similar informal swales along the margins.
- The contained visual context of the site means the potential for adverse visual effects are limited to adjacent areas. Once planting reaches approximately 2 - 3 m high (year 3 - 4), this will screen direct views into the site from adjoining areas. During operation, once existing plantation trees reach 10 m high (within the first 10 years of operation), these will provide additional screening of facilities on the ridge when approaching the site from McLaren Gully Road to the east.
- When approaching the site from the east along McLaren Gully Road, the initial stages of the operation will predominantly be screened by the intervening spur that contains the site access and associated support infrastructure. Once mitigation planting is established in approximately 10 years' time, views of the support infrastructure will become largely screened.
- When approaching the site from the west, the landfill will be visible from Big Stone Road prior to mitigation becoming established. During the initial stage of the landfill, the combination of intervening plantation forestry and boundary planting will increasingly become established and screen the western stockpile area and much of the lower lying internal operation in fleeting views. Once mitigation is established, the combination of plantation forestry and enduring native vegetation along the boundary will ensure an effective long term visual screen for the stockpile and roading.
- Ultimately, visual effects as experienced from McLaren Gully Road and Big Stone Road will be moderate in the short term, reducing to low once mitigation is established. A key factor in this assessment is the form of visual amenity that can be expected in the status-quo situation, being a form of amenity that includes ongoing extensive forestry including harvesting, associated vehicle movements, etc.

Regarding visual effects from neighbouring properties, the properties at 731, 689 and 513 Big Stone Road are identified as being potentially affected. Mr Espie agrees that there will be very

minimal visibility to any of the proposed activities from any of the three dwellings on these properties, even in the event that all forestry trees in the vicinity are removed. The dwellings on the three identified properties are located and oriented to take advantage of the very broad views to the east, out over the coast. Certainly, views are also available to the west towards Maungatua, but these views are secondary to the primary views to the east. Mr Espie agrees that given the strong screening provided by forestry trees, the existence of Designation D659, and the general working forestry character of the area adjacent to and north of Big Stone Road, adverse effects on the visual amenity of these private properties will be of a low degree.

Mr Espie noted that when the occupiers of these properties exit their properties onto Big Stone Road they will experience more pronounced visual effects. However, in the medium to long term, native vegetation along the site's road frontage will screen that visibility, creating vegetative enclosure that is somewhat akin to the enclosure created by the recently-felled forestry trees on the site, but of a native character.

Mr Espie agrees with the Applicant's summary regarding visual effects, being that the location and physical nature of the site within in a folded gully system essentially contains and mitigates most visual effects of the landfill on the surrounding area. Views from dwellings will be limited to long distance partial views and typically concealed by intervening plantation forest with a working rural landscape. Once perimeter planting is established, temporary views along the boundary of the landfill will become obscured, generating low adverse visual effects.

Consent Conditions

Mr Espie considers the proposed mitigation to be provided by vegetation management and planting to be appropriate, and that suitable conditions to enforce it should be placed on any resource consent that is granted. Other than a requirement to undertake the activities as described in the consent application, and a requirement to undertake restoration to address the impact on freshwater, wetland and terrestrial environments, there are no proposed conditions specifically addressing how landscape and visual effects will be managed. I consider it necessary for the proposed mitigations, and timing thereof, to be specified as a condition of consent (see *Attachment 5 - Draft conditions ORC edits 20 Apr 22*).

Conclusion - Landscape, Natural Character and Visual Effects

Mr Espie specifically addresses two submissions that raised concerns about effects on the landscape, but that these are not the only two submissions that raised these concerns. Several other submitters also raised concerns about potential visual and landscape effects, both in the immediate vicinity and from as far away as Saddle Hill. Nonetheless, Mr Espie concludes that the proposed activity, including the mitigation measures proposed by the Applicant, combined with the details of the site including its topography and context, mean that adverse visual effects will be of a low degree overall (see *Attachment 10 - Landscape Peer Review Report 29 Mar 22*).

Section 95A of the RMA requires public notification of the application where adverse effects on the environment are likely to be more than minor in accordance with Section 95D⁶. One of the reasons why the application was publicly notified is because visual effects from McLaren Gully Road and Big Stone Road will be 'more than minor' during the first five years of operation, however, these effects are temporary and will reduce to 'minor' once landscape mitigation planting has established.

Provided that the applicant adopts a consent condition(s) specifically stipulating the proposed mitigation measure for landscape and visual effects as described in the application, I am satisfied that potential adverse effects have been adequately addressed and can be managed appropriately.

6.1.11 Effects on Archaeological Values

Several submitters raised concerns about adverse effects on archaeological values. However, my assessment remains unchanged from that given in Section 7.12 of the s95 report. Heritage New Zealand (HNZ) is the final arbiter on whether archaeological authorities are issued, and HNZ effectively peer review every archaeological assessment submitted. There is no particular precedent for having an archaeological assessment peer reviewed by another contract archaeologist when processing an application for resource consent. The applicant has stated that there will be engagement with HNZ prior to modifying the site, and that an archaeological authority will be sought. As such, I am satisfied that effects on known archaeological values will be appropriately managed. Proposed condition 69 will ensure that any new archaeological discoveries are appropriately managed.

6.1.12 Effects on Cultural Values

As noted in Section 7.13 of the s95 report, the applicant provided a Cultural Impact Assessment (CIA) prepared by Aukaha Ltd on behalf of Te Rūnanga o Ōtākou. The CIA provided an account of the cultural values associated with the site and surrounding cultural landscape and discussed the potential effects of the landfill on these values. The CIA also proposed measures for mitigating effects on cultural values, which were largely incorporated into the applicant's proposed conditions of consent.

The key issue for mana whenua was the potential for the landfill to have adverse effects on wai māori (freshwater). Mana whenua were concerned that leachate, sediment, or stormwater carrying contaminants could enter surface water or groundwater and have damaging effects on the mauri and health of Ōtokia Creek and its tributaries, which ultimately flow to the coast near Brighton, as well as all life that is within and sustained by that water.

⁶ Under section 95D(a), a consent authority deciding whether an activity is likely to have adverse effects that are more than minor must disregard effects on persons who own or occupy the land on which the activity will occur or any land adjacent to that land.

Te Rūnanga o Ōtākou submitted in support of the application subject to the adoption of the mitigation measures proposed in the cultural impact assessment. In their submission, Te Rūnanga o Ōtākou advised that the low degree of connection of the site with Ōtokia Creek, together with the changes in design to reduce the impact of the activity on wetlands in the area, have given them sufficient confidence to take a position of general support for the application. However, mana whenua still seek the highest protection possible for wai māori where all practicable measures will be taken to prevent discharges of leachate and contaminants to groundwater and surface water. This includes both baseline and ongoing water quality monitoring, including water quality monitoring within Ōtokia Creek, and the adoption of sediment and erosion controls during construction of the landfill.

I asked the applicant to confirm that all of the mitigation measures proposed in the cultural impact assessment had been adopted as conditions of consent. The applicant advised that some of these mitigation measures relate to matters that occur prior to a consent being issued or sit outside of the consent process and, therefore, should not be included as conditions of consent, specifically:

- Mana whenua request that the applicant develops, funds and adheres to an implementation strategy to enable an efficient shift to a zero waste future.
- The applicant ensures that thorough analysis of alternative solutions has been undertaken, documented and disseminated to mana whenua and stakeholders.

Regarding the first point, shifting to a zero-waste future is addressed through the applicant's Waste Management and Minimisation Plan 2020. Regarding the second point, an assessment of alternative sites and methods has been undertaken as described elsewhere in this report. This may be a consideration in determining whether consent should be granted, but such an assessment would not appropriately be included as a condition.

The applicant further advised that mitigation measures proposed in the cultural impact have been revisited to reconfirm they have been appropriately adopted, and noted the following additional matters to those described in the application:

- *First Wai Māori recommendation: That all practicable measures are taken to prevent discharges entering water, including preventing where possible, leachate from entering groundwater and surface water.* Discharge of leachate and stormwater contaminants to water are addressed by the requirements to adopt a liner and leachate collection system, limiting discharge of leachate within the liner extent, requiring the LMP to adopt procedures that ensure leachate containment is optimised, ensure stormwater that comes into contact with waste is directed to the leachate collection system, ensure sediment runoff is effectively controlled, and ensure that any spills of contaminants are promptly contained

and remediated. Procedures that achieve these objectives will be further detailed in the final LMP developed in consultation with Te Rūnanga o Ōtākou.

- *Second Wai Māori recommendation: That stormwater quality is tested. If stormwater contains high concentrations of harmful leachate or contaminants, then it should not be allowed to infiltrate to groundwater or be discharged to Ōtokia Creek.* The proposed water monitoring conditions require monitoring of stormwater at the attenuation basin and Stage 1 SRP, with stormwater being contained and prevented from discharge in the event of contaminant trigger levels being exceeded. Any contaminated stormwater contained within the attenuation basin and Stage 1 SRP will be directed to the leachate collection system for disposal off site. Procedures covering this will be further detailed in the final LMP developed in consultation with Te Rūnanga o Ōtākou.
- *Third Wai Māori, and seventh Kaitiakitaka and Mauri recommendations: Effects on mauri and whakapapa from contaminants entering water and from altering the existing hydrology are offset by mitigation measures such as riparian planting and pest management; Initiate wetlands and creek margins replanting programme.* Hydrological effects on downstream wetlands may be adequately addressed by the Freshwater and Wetland Monitoring and Management Plan, subject to improved wetland monitoring as discussed elsewhere in this report. Plant and animal pest control will be addressed in the Plant and Animal Pest Control Programme.
- *Second Kaitiakitaka and Mauri recommendation: That any works are undertaken outside of the kārearea breeding season.* The draft Eastern Falcon Management Plan requires that where kārearea have been identified as nesting on the site, works will be undertaken outside the breeding season where possible, and if not possible, exclusion zones will be established. While this does not fully adopt the CIA recommendations, the applicant considers that any effects on karearea will be avoided or minimised. The final Eastern Falcon Management Plan will be developed in consultation with Te Rūnanga o Ōtākou.
- *Third and sixth Kaitiakitaka and Mauri recommendations – Ensure landfill design elements and mitigation measures are controlled and regularly monitored so that degradation of the mauri of the ecosystem within, and beyond the site is avoided or eliminated; More information is required as to what measures are in place to mitigate mass leachate diffusion and subsequent influencing of ground and surface water in the Ōtokia Creek in the event of a natural hazard.* The control and monitoring of landfill design elements and mitigation measures has been strengthened by the addition of a peer review panel to review the design, construction, and operation of all stages of the landfill, undertaking a Site Specific Probabilistic Seismic Hazard Assessment (SSPSHA) to inform landfill stability at detailed design, and independent quality assurance (CQA) of the installation of the landfill liner.
- *Third Recognition of Mana whenua recommendation – Mana whenua should be given the opportunity to undertake ongoing monitoring alongside other specialists.* An LMP objective has been added (renumbered condition 82) to make it clear that mana whenua will be given the opportunity to undertake monitoring alongside other specialists.

In conclusion, specific mitigation measures proposed in the CIA have been adopted as conditions of consent where appropriate. For clarity, this does not mean that I am satisfied that the application can be granted, rather that the Applicant has adopted conditions from the CIA. There is still uncertainty regarding the degree of potential adverse effects on wai māori and native fauna, and the ability of the applicant's proposed conditions to ensure that these are appropriately avoided, remedied, mitigated, offset or compensated for (as discussed elsewhere in this report).

Ki Uta Ki Tai

Having regard to ki uta ki tai means recognising the interconnectedness of the whole environment, and the interactions between freshwater, land, water bodies, ecosystems, and receiving environments; and ensuring that freshwater, and land use and development, in catchments be managed in an integrated and sustainable way to ensure the health and well-being of water bodies, freshwater ecosystems, and receiving environments.

The applicant's assessment has considered these matters. However, there are some gaps in the information presented, some uncertainty remains, and the proposed conditions are not sufficiently developed to ensure the health and well-being of water bodies, freshwater ecosystems, and receiving environments.

6.1.13 Effects on the Community

Property Prices

Several submitters raised concern that the presence of the landfill will have an adverse on property prices in the local vicinity (particularly those properties located on Big Stone Road). The applicant's economic report does not address this matter. When questioned about effects on property prices, the applicant's legal counsel advised that the Courts have not considered effects on property values to be a relevant consideration per se in determining whether a resource consent should be granted. The physical effects of an activity on the environment are the primary consideration, and any effect on property prices is simply a (potentially imperfect) reflection of these environmental effects.

The Environment Court has observed that to consider both the physical effects on the environment as well as any indirect effect on property prices would risk "double-weighting" of the effects on the environment⁷. Furthermore, decreases in property values reflect the effects of an activity on the environment and it is preferable to consider the effects directly, rather than the market's response to them which can be an imperfect measure of environmental effects⁸.

In summary, potential decreases in property values have not been assessed because this is not an essential matter for consideration when determining whether a resource consent should be granted provided that the physical effects of an activity on the environment have been adequately

⁷ *Chen v Christchurch City Council* EnvC Christchurch C102/97, 26 September 1997 at page 18-19.

⁸ *Bunnik v Waikato District Council* EnvC Auckland A42/96, 24 May 1996 at page 6.

assessed. Further discussion on this matter is provided in *Attachment 11 - Memorandum of advice regarding relevance of perceived risks 8 Apr 22*.

Perceived Risks

Many submitters have raised concerns about the presence of a landfill in the headwaters of the Ōtokia Catchment creating a perception of risk that will affect the number of people enjoying/using Ōtokia Creek; the wetland area; and Brighton Beach, and that this may have a knock-on effect on local businesses, the surf lifesaving club, house prices, and community wellbeing. This is because they may perceive the water in the creek to be contaminated and unsafe to swim in.

When considering an application for resource consent, the Consent Authority must have regard to any actual and potential effects on the environment. When considering what is an effect on the 'environment', section 2 of the RMA defines the environment as including:

- a) Ecosystems and their constituent parts, including people and communities; and
- b) All natural and physical resources; and
- c) Amenity values; and
- d) The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters.

Therefore, an effect on the environment may include an actual or potential effect on people and communities near the proposal, or the social, economic, aesthetic, and cultural conditions which are enjoyed by people and communities.

However, perceptions of risk are not themselves effects on the environment. If adverse effects on the environment have been established and are well founded, it is the adverse effects, rather than the secondary or derivative results of them, that should be considered by the Consent Authority⁹. The Courts have considered whether fear or the perception of risk are an effect to be taken into account but found that fear or the perception of risk can only be given weight if it is reasonably based on real risk and plausible¹⁰. The Courts do not consider there is a place for the Court (or Consent Authority) to be influenced by the mere perception of risk which is not shown to be well founded¹¹. Specifically, the Court has found that discomfort of individuals caused by a proposed activity to the mere presence of the activity does not amount to an adverse effect on amenity values¹².

⁹ *Contact Energy Ltd v Waikato Regional Council* (2000) 6 ELRNZ 1 (EnvC) at [255]

¹⁰ *Shirley Primary School v Christchurch City Council* [1999] NZRMA 66 (EnvC) at [193]; *Contact Energy Ltd v Waikato Regional Council* (2000) 6 ELRNZ 1 (EnvC) at [254]-[255]; *Living in Hope Inc v Tasman District Council* [2011] NZEnvC 157 at [192].

¹¹ *Contact Energy Limited v Waikato Regional Council* (2000) 6 ELRNZ 1 at [254].

¹² *Living in Hope Inc v Tasman District Council* [2011] NZEnvC 157 at [124].

Because an individual or community is uncomfortable at the presence of the proposed landfill does not, therefore, amount to an adverse effect, rather there needs to be an adverse effect for such discomfort.

The Applicant is not proposing to contaminate surface water to the extent that it no longer safe for contact recreation. However, Section 6.1.5 of this report concludes that Applicant's draft consent conditions that set out how monitoring will be carried out, how objectives for the trigger levels will be established, and how exceedances of trigger levels will be responded to, are not sufficiently developed to ensure that the effects on surface water quality will be managed appropriately.

I do not, therefore, have confidence that adverse effects on groundwater and surface water quality will be adequately avoided, remedied, or mitigated. This validate the community's concerns regarding surface (and coastal) water contamination. However, it should be noted that it is the direct effect on water quality that is being considered in this report, rather than any potential knock-on effects on community wellbeing.

Further discussion on this matter is provided in *Attachment 11 - Memorandum of advice regarding relevance of perceived risks 8 Apr 22*.

Traffic

While traffic might not usually be a matter for the ORC to consider, I note that several submitters have raised concerns about adverse effects from increased traffic movements and so I have addressed it.

Submitters are particularly concerned about heavy vehicles on Big Stone Road and passing through Ocean View and Brighton, and increased car traffic from the general public accessing the landfill. It should be noted that all heavy vehicle access will be via State Highway 1 and McLaren Gully Road, not Big Stone Road or Ocean View/Brighton, and that the landfill will not be open to use by the general public.

Other Matters

Submitters have also raised concerns about landfill fires, vermin and litter. Some submitters also raised concerns that an increase in bird activity could result in contamination of roof water supplies for nearby residents. I am satisfied that these matters can be managed appropriately through the implementation of the Landfill Management Plan, which will be developed in consultation with Te Rūnanga o Ōtākou, certified by the independent peer review panel, and reviewed annually to ensure that management practices are ensuring compliance with consent conditions.

An advice note could be included on the consent to ensure that it is understood that the purpose of the independent peer review panel is not to certify compliance with consent conditions on behalf of ORC, rather it is simply a process whereby the ORC would receive an independent review of the applicant's performance. ORC would make the final determination regarding whether the

Consent Holder has achieved compliance, even if this is inconsistent with the opinion of the peer review panel.

6.1.14 Positive effects

Positive effects of the proposal are discussed in the Assessment of Environmental Effects for Updated Design prepared by Boffa Miskell, dated May 2021, and summarised as follows:

- Positive effects for social and economic wellbeing from the disposal of waste.
- Generation of employment and economic effects out to the year 2055.
- Implementation of the Vegetation Restoration Management Plan that will result in a substantial net gain in wetland habitat.
- Predicted reductions in contaminant flux that are likely to have a positive effect on downstream wetland vegetation.

As noted elsewhere in this report, uncertainty remains regarding the potential magnitude of adverse effects on the swamp and valley floor wetland and, therefore, whether any loss of habitat will be appropriately offset or compensated for.

6.1.15 Summary – Actual and Potential Effects

Taking into consideration the positive environmental effects identified above and the adverse effects of the proposal set out in the s95 report and addressed above, actual and potential adverse effects on the environment are considered on balance to be significant without adequate mitigation, which the applicant's proposed conditions of consent do not currently provide for.

6.2 S104(1)(ab)

In addition to the proposed mitigation measures, the applicant has proposed to implement a Restoration Management Plan to address the loss of or impact to freshwater, wetland and terrestrial environments caused as a result of the landfill to achieve no net loss of ecologically significant habitat/features in terms of type, amount or conditions.

Further detail is provided in the Draft Smooth Hill Vegetation Restoration Plan (VMP) prepared by Boffa Miskell Ltd, dated May 2021 (appended to the Draft Landfill Management Plan), which outlines the process for enhancement of two connected areas, being:

- 1) A 'Smooth Hill Reserve' where:
 - Potential changes in vegetation composition, due to changes to water supply, that may degrade an area of 'swamp wetland' located below the landfill will be mitigated by weeding, planting, and ongoing protection, within the swamp wetland; and

- The loss of indigenous lizard habitat, due to the landfill development and road upgrade, will be mitigated by enhancement and protection of existing habitat outside the landfill footprint (at 'West Gully 3'); and
- 2) A 'wetland offset area' where the loss of 16.5 m² of wetland habitat along McLaren Gully Road is offset by the enhancement of 0.49 ha of wetland habitat within the designation site referred to as 'West Gully 3' and 'West Gully 4. Note that the wetland offset area will be partially within the Smooth Hill Reserve (0.17 ha) and part (0.32 ha) is adjacent to it.

The Applicant has advised that even though there will no longer be any direct impact on 16.5 m² of wetland along McLaren Gully Road, the Applicant will still enhance 0.49 ha of similar wetland habitat that sits within the designation site (per. comm. 7 April 2022). This initiative is supported provided that restoration objectives stipulated in proposed condition 59 are not limited only to 'ecologically significant' habitat/features.

6.3 S104(1)(b) Relevant Planning Documents

The relevant planning documents in respect of this application are:

- National Policy Statement for Freshwater Management 2020 (NPS-FW)
- Partially Operative Regional Policy Statement 2019 (PORPS)
- Proposed Regional Policy Statement 2021 (PRPS)
- Regional Plan: Waste for Otago (RPWaste), including proposed Plan Change 1
- Regional Plan: Water for Otago (RPW), including Plan Change 7

These documents present a hierarchy whereby the provisions of regional and district plans are required by the RMA to give effect to the higher order policy direction within the regional policy statement, which in turn are required give effect to any relevant national policy statement. However, in the Otago region, 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 and, therefore, all have had to be considered.

In the interest of ensuring that this report is easier to read, the detailed policy assessment is provided as an attachment (Attachment 13) and key findings summarised as follows:

- The proposal is contrary to Policy 6 of the NPS-FW, Policies 4.3.3, 4.3.5, 4.6.2, 4.6.8, 4.6.9 and 5.4.3 of the PORPS, Policies IM-P15, LF-FW-P9, EIT-INF-P15, HAZ-CL-P15 and HAZ-CL-P18 of the PRPS, Policy 7.4.11 of the RPWaste, and Policies 5.4.2A, 10.4.2 and 10.4.8 of the RPW;
- The proposal as it currently stands is not entirely consistent with other policies that relate to adverse effects on water quality and indigenous biodiversity values, but it is possible that some of these matters could be addressed through further amendment to the consent conditions; and
- The proposal is largely consistent with all other relevant policies.

Resource Management (National Environmental Standards for Freshwater) Regulations 2020

These regulations have been given consideration and necessary consents applied for as discussed in Section 5 of this report. Consent is required under Regulations 39, 52 and 54. Regulation 39 requires that a restoration plan is prepared and that the resource consent must impose a condition that requires compliance with the restoration plan. This is addressed by proposed condition 59.

Note that the applicant has amended the application to realign the proposed road carriageway to avoid any direct impact on wetlands located alongside McLaren Gully Road. Accordingly, land use consent is no longer required under prohibited activity regulation 53 of the NES-FW. A land use consent is, however, still required for the road upgrades under Regulation 54 (vegetation clearance and earthworks within 10 m of a natural wetland).

Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 and Amendment Regulations 2020

The Applicant has not specified what the maximum instantaneous rate of groundwater abstraction will be and so it has been assumed that it will be more than 5 L/s, and an appropriate consent condition recommended in line with these regulations.

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

If the application is granted, it has been recommended that an additional consent condition is inserted after condition 53 to ensure that the flaring of gas is undertaken in accordance with regulations 25, 26 and 27.

6.4 Section 104(1)(c) - Any other matters

6.4.1 The Kai Tahu ki Otago Natural Resource Management Plan 2005

The Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP) is considered to be a relevant other matter for the consideration of this application. This is because the RPW is yet to be amended to take into account this plan, and this plan expresses the attitudes and values of the four Papatipu Rūnaka: Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga.

An assessment of the application in the context of the objectives and policies of the NRMP was provided in the Cultural Impact Assessment submitted with the application. Further assessment of the application against the most relevant policies is provided in *Attachment 13 - Policy Assessment* and key findings summarised as follows:

- The proposal is contrary to Policy 56 of the NRMP;

- The proposal as it currently stands is not entirely consistent with other policies that relate to adverse effects on water quality and indigenous biodiversity values, but it is possible that agreement could be reached on suitable consent conditions that would address these matters; and
- The proposal is largely consistent with all other relevant policies.

It is noted the policy convention 'to oppose' that is used throughout the NRMP means 'an activity or action that must not occur' in order to achieve the objectives of the plan and protect Kai Tahu ki Otago values.

6.4.2 Consideration of Alternatives

If an application is for a discharge permit, and/or a Consent Authority concludes that a proposal is likely to have or has significant adverse effects on the environment, then the availability of alternatives may be a relevant matter for consideration under section 104(1)(c) and section 105(1)(c). The application states that without appropriate mitigation, that there is a very high risk to aviation safety from the proposed Smooth Hill Landfill, which is the primary reason why I have given consideration to alternatives as follows.

An extensive site selection process was completed by the applicant in the early 1990s to identify a suitable site to replace the Green Island landfill. The applicant investigated thirty-two possible sites, the Smooth Hill site was determined to be the preferred option, and a designation was put in place. As part of the Waste Futures Programme in 2018,¹³ the applicant assessed other options under nine different programmes incorporating a range of potential waste and diverted material interventions. Three of these programmes involved exporting waste from the city and/or disposing of it at privately-owned facilities, and one programme involved developing a waste to energy facility within the district. Five of the programmes included development of the Smooth Hill site for waste disposal, but no other potential landfill sites in the district were considered because the applicant already had a designation at Smooth Hill.

Waste to energy (incineration) was discounted as an option due to high indicative capital and operating costs and it being reliant on securing large proportions of combustible waste (including from out of district) to be viable. The Applicant determined that this option was also unlikely to be culturally acceptable.

Export of waste was determined to be viable¹⁴, however, it also presented risks and uncertainties in terms of the capacity of out-of-district landfills to accept waste, waste acceptance criteria, and resource consent constraints on the operation of those landfills. The Applicant noted that export of waste would also incur transport charges and may be impacted by future national levies on

¹³ Refer to Further s92 response - Updated Alternatives Assessment 5 Aug 21

¹⁴ Further s92 response - 5 Aug 21

waste/CO₂ charges, and that Mana whenua had raised concerns over the export of waste out of the district.

It was recognised that secure access to a waste disposal facility was required in both the short and long term, with the proposed Smooth Hill landfill being the preferred option for this.

The High Court in *Meridian Energy Ltd v Central Otago District Council*¹⁵ found there were limits to what could be required in terms of the consideration of alternatives, including:

- The applicant is only required to provide a *description* of alternatives, and that description does not need to include a full cost-benefit analysis of alternative locations or methods.
- The applicant is not required to demonstrate that its proposal represents the best use of the subject resources or is best in net benefit terms.
- That alternatives provided by the applicant only need to be in relation to the area within the district or region of the consent authority.
- The level of detail required for a description of alternatives is proportional to the size of the proposal and its potential impact on the environment.

As noted above, the Applicant determined export of waste outside of the district to be a viable option, but did not specify whether this would also involve export outside of the region. It is not clear, therefore, whether this alternative should or should not be considered under section 104(1)(c) and 105(1)(c). The Applicant also explored disposal at privately-owned facilities within the district, but it is not clear whether or not that was determined to be a viable option.

When undertaking a section 105 assessment, the Court has considered additional treatment prior to discharge as being an appropriate alternative. In recognition that long-life putrescible waste landfills are an attractor to birds, the applicant has proposed further conditions addressing the reduction of putrescible waste i.e. additional treatment of the waste stream prior to discharge. The consent conditions proposed were not, however, enforceable and so I am not at this stage satisfied that the proposed mitigation would ensure that the very high risk to aviation safety will be avoided. Treating the waste stream to remove putrescible waste prior to discharge, as recommended by Mr Markham (T+T) and as recommended in the Applicant's own bird hazard assessment, is an alternative to the proposed method of discharge that should be had regard to.

In conclusion, there are alternatives that could be had regard to in this situation when determining whether or not consent should be granted:

- Disposal at an alternative location (private landfills within the district and/or private/municipal landfills elsewhere in the region); and
- Additional treatment prior to discharge (removal of putrescible waste from the waste stream).

¹⁵*Meridian Energy Ltd v Central Otago DC* [2010] NZRMA 477 (HC)

Consideration of alternatives is also a factor when assessing the application against Policy 7.4.8 of the Regional Plan: Waste for Otago (see *Attachment 13 - Policy Assessment*).

Further discussion on this matter is provided in *Attachment 12 - Memorandum of advice regarding assessment of alternatives 8 Apr 22*.

7. Section 104D

The NES-FW came into force on 3 September 2020, which was after the date of the lodgement of this application. The NES-FW introduced several regulations for non-complying activities, and two of these regulations (regulations 52 and 54) now apply to the application.

Section 88A of the RMA provides that the status of the activity remains unchanged from what it was when the application was lodged. Accordingly, overall, the application is considered to be a discretionary activity (in line with the provisions of the RPW).

However, while s88A means that the activity is processed as its less restrictive activity status (discretionary), the s104D gateway is still a relevant consideration, given that the activity triggers non-complying rules in the NES-FW.

In this case, the proposal does not satisfy the threshold test of s104D because I am not satisfied that the adverse effects on the environment will be minor, and the proposal is contrary to policies contained in the NPS-FS, the PORPS, RPWaste, RPW and NRMP as described above. Given that the activity status of the application is discretionary rather than non-complying this is not determinative and the activity can go on to be considered under section 104. However, this is a relevant consideration and does contribute to the overall understanding of effects.

8. Sections 105 and 107

Section 105 of the RMA states that if an application is for a discharge permit, the consent authority must, in addition to the matters in section 104(1), have regard to:

- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
- (b) the applicant's reasons for the proposed choice; and
- (c) any possible alternative methods of discharge, including discharge into any other receiving environment.

These matters have been considered and discussed earlier in this report, with the conclusion that disposal at an alternative receiving environment (private landfills within the district and/or private/municipal landfills elsewhere in the region) and additional treatment prior to discharge (removal of putrescible waste from the waste stream) are alternatives that could be had regard to in this situation when determining whether or not consent should be granted.

Section 107(1) of the RMA states that a consent authority shall not grant a discharge permit allowing if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

- (c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:
- (d) any conspicuous change in the colour or visual clarity:
- (e) any emission of objectionable odour:
- (f) the rendering of fresh water unsuitable for consumption by farm animals:
- (g) any significant adverse effects on aquatic life.

The applicant's proposed condition 26 sets out assessment trigger level criteria for suspended sediment. One of the criteria is, "*Trigger levels for suspended sediments in surface water (SW1 – SW7) for flood events (where out of channel flows occur), shall be based on visual inspection with a no greater than 30% increase in turbidity at the downstream boundary of the landfill site over that of adjacent contributing catchments*". This criterion will most likely result in a conspicuous change in colour or clarity of the receiving water as a result of the discharge and accordingly would probably contravene s107(1)(d) of the RMA. This criterion is also potentially inconsistent with the Applicant's proposed condition 30.

Proposed condition 30 states that the construction and operation of the landfill must not cause there to be a conspicuous change in water quality. It is assumed that this wording was meant to read "colour or visual clarity".

Without revision of proposed conditions 26 and 30, the proposal contravenes s107(1)(d) of the RMA.

9. Part 2 of the Act

Under Section 104(1) of the RMA, a consent authority must consider resource consent applications "subject to Part 2" of the RMA, specifically, sections 5, 6, 7 and 8.

Section 5 identifies the purpose of the RMA as the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that

enables people and communities to provide for their social, cultural and economic well-being while sustaining those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

Sections 6, 7 and 8 outline the principles of the Act. Section 6 sets out a number of matters of national importance which need to be recognised and provided for, section 7 identifies a number of “other matters” to be given particular regard by the council, and section 8 requires the council to take into account the principles of the Treaty of Waitangi.

The Court of Appeal has clarified how to approach the assessment of “subject to Part 2” in section 104(1). In *R J Davidson* the Court of Appeal found that decision makers must consider Part 2 when making decisions on resource consent applications, where it is appropriate to do so. The extent to which Part 2 of the RMA should be referred to depends on the nature and content of the planning documents being considered.

Where the relevant planning documents have been prepared having regard to Part 2 of the RMA, and with a coherent set of policies designed to achieve clear environmental outcomes, consideration of Part 2 is not ultimately required. In this situation, the policies of these planning documents should be implemented by the consent authority. The consideration of Part 2 "would not add anything to the evaluative exercise" as "genuine consideration and application of relevant plan considerations may leave little room for Part 2 to influence the outcome". However, the consideration of Part 2 is not prevented, but Part 2 cannot be used to subvert a clearly relevant restriction or directive policy in a planning document.

Where it is unclear from the planning documents whether consent should be granted or refused, and the consent authority has to exercise a judgement, Part 2 should be considered. In this case there is no need to look to Part 2 of the RMA in making this decision as it is clear from the planning documents that consents should not be granted.

10. Overall Recommendation

Under section 104B it is recommended that this consent application in its current form is refused for the following reasons:

- In accordance with an assessment under ss104(1)(a) and (ab) of the RMA, the actual and potential effects from the proposal are considered on balance to be significant without adequate mitigation
- In accordance with an assessment under s104(1)(b) of the RMA, the proposal is found to be contrary to Policy 6 of the NPS-FW, Policies 4.3.3, 4.3.5, 4.6.2, 4.6.8, 4.6.9 and 5.4.3 of the PORPS, Policies IM-P15, LF-FW-P9, EIT-INF-P15, HAZ-CL-P15 and HAZ-CL-P18

of the PRPS, Policy 7.4.11 of the RPWaste, Policies 5.4.2A, 10.4.2 and 10.4.8 of the RPW, and Policy 56 of the NRMP.

- In accordance with an assessment under s104(1)(c) and s105(1)(c) of the RMA, disposal at an alternative location (private landfills within the district and/or private/municipal landfills elsewhere in the region) and additional treatment prior to discharge (removal of putrescible waste from the waste stream) are alternatives that could be had regard to in this situation when determining whether or not consent should be granted. Particularly, given the actual and potential effects of the proposal are considered to be significant and are not considered to be adequately mitigated by the proposed conditions of consent.
- Without revision of proposed conditions 26 and 30, the proposal contravenes s107(1)(d) of the RMA and therefore Council cannot grant the discharge permit.

11. Section 108 and 108AA Consent Conditions

The Applicant has proposed a set of conditions for the application, which both myself and the various technical experts have commented on. There are a number of issues with the conditions as proposed by the Applicant. These issues have been discussed throughout this report and I maintain that the conditions as proposed are not suitable to address uncertainty regarding the magnitude of adverse effects and to bridge the gap in information to appropriately manage any residual adverse effects.

The actual and potential effects from the proposal are considered on balance to be significant without adequate mitigation, which the Applicant's proposed conditions of consent do not currently provide for.

The most recent set proposed by the applicant, dated 5 April 2022 (attached), is referred to regularly throughout this report to help explain some of the reasons behind my overall recommendation to refuse the application.

Should the decision makers wish to grant the application, the attached amendments to the Applicant's proposed conditions (*Attachment 5 - Draft conditions ORC edits 20 Apr 22*) are recommended in accordance with Sections 108 and 108AA of the Act, rather than the conditions as currently proposed by the Applicant.

11.1 Term of Consent (Section 123)

The application seeks a term of 35 years for all consents other than the water permit to take groundwater, for which a 6 year consent term is sought in line with the new policy direction in Chapter 10A of the RPW (introduced by Plan Change 7). Should the decision makers wish to

grant the application, the consent terms sought are considered appropriate provided that the issues raised with the applicant's proposed conditions (*Attachment 5 - Draft conditions ORC edits 20 Apr 22*) are resolved.

In reaching this recommendation the following relevant factors as distilled from case law have been considered:

- The duration of a resource consent should be decided in a manner which meets the RMA's purpose of sustainable management;
- Whether adverse effects would be likely to increase or vary during the term of the consent;
- Whether there is an expectation that new information regarding mitigation would become available during the term of the consent;
- Whether the impact of the duration could hinder implementation of an integrated management plan (including a new plan);
- That conditions may be imposed requiring adoption of the best practicable option, requiring supply of information relating to the exercise of the consent, and requiring observance of minimum standards of quality in the receiving environment;
- Whether review conditions are able to control adverse effects;
- The life expectancy of the asset for which consents are sought; and
- Whether there was significant capital investment in the activity/asset.

Significant capital investment will need to be made in establishing the landfill, and this is a consideration when determining whether the term sought is appropriate. Whilst there is high probability that adverse effects are likely to increase or vary during the term of the consent and that new information regarding mitigation would become available during the term of the consent, I am satisfied that the proposed review condition and annual review of the Landfill Management Plan will ensure that the consent term will not hinder appropriate adaptation in response to these factors.

11.2 Lapse Period (Section 125)

Under s125, if a resource consent is not given effect to within five years of the date of the commencement (or any other time as specified) it lapses automatically, unless the Council has granted an extension. The applicant has not sought a specific lapse period and so the standard 5-year lapse period will apply.

11.3. Cancellation of Consent (Section 126)

Pursuant to section 126(1) of the RMA, the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years, unless expressly provided otherwise by the resource consent. Policy 6.4.18 in the RPW provides for the Council to cancel a water permit if it has not been exercised in the preceding 2 years.

In the event that consent is granted, I consider the standard 5-year cancellation period to be appropriate as there is no competing local demand for groundwater that would be affected by the applicant 'locking up' allocation unnecessarily.

11.4 Review Condition (Section 128)

The RMA provides for the Council to review conditions at any time or times specified for that purpose in the consent where there are any adverse effects that may arise from the exercise of the consent, or in relation to a coastal, water or discharge permit where a regional plan or NES has changed. In addition, the council can review other conditions without having to set out in a condition the timeframes within which it will review them.

In the event that consent is granted, *Attachment 5 - Draft conditions ORC edits 20 Apr 22* contains a recommended review condition that should be included.

Attachments

Attachment 1: DCC responses to pre-hearing questions 18 Mar 22

Attachment 2: L from Anderson Lloyd RE conditions, water permit term 5 Apr 22

Attachment 3: L from Anderson Lloyd RE road realignment 7 Apr 22

Attachment 4: Draft conditions 5 Apr 22

Attachment 5: Draft conditions ORC edits 20 Apr 22

Attachment 6: Updated Appendix 5 and Appendix 6 - Geotechnical Factual and Interpretative Report Technical Review 31 Mar 22

Attachment 7: Updated Appendix 9 - Surface Water Assessment 4 Apr 22

Attachment 8: Updated Appendix 8 - Groundwater Technical Review 4 Apr 22

Attachment 9: Updated Appendix 11 - Ecology Technical Review 5 Apr 22

Attachment 10: Landscape Peer Review Report 29 Mar 22

Attachment 11: Memorandum of advice regarding relevance of perceived risks dated 8 Apr 22

Attachment 12: Memorandum of advice regarding assessment of alternatives dated 8 Apr 22

Attachment 13: Policy assessment 11 Apr 22

Attachment 14: Summary of Submissions