

Decision following the hearing of an application for resource consents under the Resource Management Act 1991 (RMA)



Proposal

To obtain Resource Consents (including land use consents, discharge and water permits) for the construction and operation of a new regional landfill facility with a footprint of approximately 60 hectares, and with capacity to contain approximately 25.8 million m³ of municipal solid waste, and ancillary infrastructure, at 1232 State Highway 1, Wayby Valley.

By a majority of the Commissioners, the application for resource consents is **GRANTED, subject to conditions**. The reasons are set out below.

Application number:	BUN60339589
Site address:	1232 State Highway 1, Wayby Valley
Applicant:	Waste Management NZ Limited
Hearing commenced:	Monday 9 November 2020, 9.30 a.m.
Hearing days:	9-12, 17, 18, 20, 24-27 November 2020; 1-3, 10, 11, 16, 17 December 2020; 27-28 January 2021
Commissioners / Panel:	Sheena Tepania (Chairperson) Alan Watson Wayne Donovan David Mead Michael Parsonson
Appearances:	<u>For the Applicant:</u> Waste Management NZ Limited represented by: <ul style="list-style-type: none">• Bal Matheson, Legal• Simon Pilkinton, Legal• Witnesses listed in Section 4 of this decision. <u>Submitters:</u> Ngāti Manuhiri <ul style="list-style-type: none">• Mook Hohneck• Jason Pou, Legal Te Aroha Pā Araparera Marae <ul style="list-style-type: none">• Te Atarangi Edmonds• Margaret Tokerangi Tinopai Resource Management <ul style="list-style-type: none">• Mina Henare

	<p>Ngāti Whātua Ōrākei</p> <ul style="list-style-type: none"> • Joe Pihema • Andrew Brown <p>Ōtakanini Haranui Marae Trust Board</p> <ul style="list-style-type: none"> • Lynn Marie Te Aniwa Tutara <p>Te Rūnanga o Ngāti Whātua</p> <ul style="list-style-type: none"> • Dame Naida Glavish • Mikaera Miru • Alan Riwaka • Richard Nahi • Glenn Wilcox • Rob Enright, Legal • Ruby Haazan, Legal • Witnesses listed in Section 4 of this decision <p>Te Ohu Kaimoana</p> <ul style="list-style-type: none"> • Kirsty Woods <p>Te Uri o Hau</p> <ul style="list-style-type: none"> • Edward Ashby <p>Nga Maunga Whakahii</p> <ul style="list-style-type: none"> • Jane Sherard • Cherie Povey • Tumanako Povey • Hemi Tapurau • Temupara Povey • Shona Oliver <p>Tracy Wiremu Davis, Rewiti Marae Shona Oliver (pers submission)</p> <p>Ngāti Rango</p> <ul style="list-style-type: none"> • Te Arahi Kapea • William Kapea <p>Jon Boyd and Katherine Taylor</p> <p>Rodney Local Board</p> <ul style="list-style-type: none"> • Danielle Hancock <p>Matthew Lomas Susan Speedy Julia Nevill Elizabeth Dowling Sustainable Energy Forum</p> <ul style="list-style-type: none"> • Steve Goldthorpe <p>Department of Conservation represented by:</p> <ul style="list-style-type: none"> • Troy Urlich, legal • Witnesses listed in Section 4 of this decision <p>Auckland Transport</p> <ul style="list-style-type: none"> • Katherine Dorofaeff <p>Craig Purvis Waterfall Farms</p> <ul style="list-style-type: none"> • Meryl Elizabeth Bacon
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	<ul style="list-style-type: none"> • Sophie Bretherton-Jones • Sue Bretherton <p>Nicholas Merwood and Oxana Haque Alan von Tunselman Auckland Conservation Board</p> <ul style="list-style-type: none"> • Lynn Mayes • Nicola MacDonald • Kate Waterhouse <p>Federated Farmers</p> <ul style="list-style-type: none"> • Richard Gardiner, planning • Alan Coles • Stephen Dill <p>Barry Rose Jaquie Stokes Alex Schenz Joshua Don and Lionel Foster Watercare Services Limited</p> <ul style="list-style-type: none"> • Lindsay Wilson <p>Leane Barry Kaipara District Council</p> <ul style="list-style-type: none"> • Dr Jason Smith <p>Mahurangi Residents and Ratepayers Association</p> <ul style="list-style-type: none"> • Peter Seers • Stuart Windross <p>Matakana Coast Trail Trust</p> <ul style="list-style-type: none"> • Graeme Stretch <p>Royal Forest and Bird Protection Society</p> <ul style="list-style-type: none"> • Nicholas Beveridge <p>Forest and Bird Warkworth Area</p> <ul style="list-style-type: none"> • Roger Williams <p>Elizabeth Foster Tracey Wood William Foster The Board Limited</p> <ul style="list-style-type: none"> • Tony Edmunds • Kevin Smith <p>Skyworks Helicopters and Goatley Holdings Limited</p> <ul style="list-style-type: none"> • Burnette O'Connor <p>Richard Griffiths Rhys Davies Hitachi Zosen Inova Australia</p> <ul style="list-style-type: none"> • Marc Stammbach <p>Malcolm Lea Jill Jackson Maurice Purdy Florian Primbs Anna Pendred</p>
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	<p>Kotare Research and Education for Social Change in Aotearoa Charitable Trust</p> <ul style="list-style-type: none"> • David Parker • Tim Howard <p>Social Credit Party</p> <ul style="list-style-type: none"> • Chris Leitch <p>David Mason Ruth Minton Jenner Zimmerman Dave Fletcher Judy Wood Colin Smith Love Kaipara Limited</p> <ul style="list-style-type: none"> • Victoria del la Varis-Woodcock <p>Steve Pigot Rohan Arlidge Melanie Scott Aotearoa Sustainability Foundation</p> <ul style="list-style-type: none"> • Dudley Ward <p>First Nations Association New Zealand</p> <ul style="list-style-type: none"> • Chris Newman <p>Fight the Tip Tiaki Whenua</p> <ul style="list-style-type: none"> • Michelle Carmichael • Susan Crockett • Rochelle Rodgers • Matt Lomas • Mikaera Miru <p>Susan Crockett Michelle Carmichael</p> <p><u>Auckland Council represented by:</u></p> <ul style="list-style-type: none"> • Warwick Pascoe, Project Lead resource consent • Mark Ross, Reporting Planner (Resource consents application (RC)) • The witnesses listed in Section 4 of this decision. <p>Sam Otter assisting as Senior Hearings Advisor</p>
Hearing adjourned:	28 January 2021
Commissioners' site visits:	November 2020, February 2021, March 2021, April 2021
Hearing closed:	26 March 2021

1. SUMMARY OF THE DECISION

1. Waste Management NZ Ltd has applied for a range of district and regional land use, streamworks, discharge and water resource consents under the Resource Management Act 1991 ("**RMA**", "**the Act**") to construct and operate a new regional scale landfill at 1232 State Highway 1, Wayby Valley with a footprint of approximately 60 hectares and with capacity to contain approximately 25.8 million m³ of municipal

solid waste. Overall, the activities are classified as non-complying under the Auckland Unitary Plan: Operative in Part (“AUP”, “the Plan”) and require consideration under ss.104 and 104D of the Act.

2. We have considered the application, the submissions, evidence, representations and expert advice provided to us as part of the hearing process within the framework of s.104 of the RMA. The majority of the Panel agree that the consent can be granted, while the minority finds it should be refused.
3. The majority of the Panel are satisfied that, subject to some amendments to the proposed conditions, the effects on the environment of the construction and operation of the new landfill are acceptable and consistent with all the relevant statutory and non-statutory planning and strategic documents guiding the use and development of landfills in the Auckland Region. At a broader level, the project as a whole will achieve a number of important Auckland regional policy statement objectives related to infrastructure. For these reasons the majority of the Panel have decided to grant the resource consents, subject to revised conditions.
4. For the majority, the proposal by Waste Management to place the landfill in a steeply sided valley at the centre of a very large site, with good design, construction and operational management, and extensive environmental mitigation, offsets and compensation were key features of the application that weighed in its favour. The extensive, multi-layered actions to be taken to contain and safely dispose of landfill leachate are of particular importance in coming to our conclusions. We have had particular regard to the effects on cultural values and on ecology, recognising cultural values and ecology as being of particular importance to our considerations of the application. These considerations have included the matters raised by Mana Whenua relating to their culture and traditions with the environment as included in submissions and in the presentations at the hearing. They are further reflected in the relevant statutory planning documents. We find they can be appropriately managed. The positive benefits to the region of being able to provide a landfill that would take the waste of Auckland for at least the maximum term of consent allowed under the RMA were also significant. These were the conclusions from considering the application and the extensive and detailed evidence from the parties at the hearing.
5. Commissioner Tepania, in the minority, considers the consents should be refused as the range of adverse effects on the environment, both during construction and operation, are more than minor and in some cases significant, and would not be avoided or mitigated. Commissioner Tepania also did not consider that the application could be supported by the relevant provisions of the statutory planning documents. On this basis, she was not satisfied that the proposal would achieve the sustainable management of natural and physical resources and could not appropriately avoid or mitigate the adverse effects on the environment. This was particularly in terms of the effects on cultural values and ecology. In this respect she did not consider the relationship of Mana Whenua and their culture and traditions with that environment were recognised and provided for, or that the compensation/offset measures detailed within the ecological effects management package, provided sufficient certainty that the ecological benefits proposed could be achieved.

2. INTRODUCTION

6. This decision is made on behalf of the Auckland Council (“**Council**”) by Independent Hearing Commissioners.¹ It contains the findings of our deliberations following the hearing of an application by Waste Management NZ Ltd (“**Waste Management**”) for resource consents to construct and operate a new regional landfill facility at 1232 State Highway 1, Wayby Valley (“**application**”, “**resource consent application**”, “**proposal**”, “**project**”). A separate request by Waste Management, to create a private plan change to introduce a new precinct into the Auckland Unitary Plan – the Auckland Regional Landfill, Wayby Valley precinct, was also filed (“**PC 42**”, “**Plan Change 42**”) and both hearing processes were held contemporaneously.
7. This decision in respect of the application has been prepared in accordance with s. 113 of the RMA² and relates only to the resource consent application. While Waste Management has taken the approach of combining the assessment of the resource consent application and Plan Change 42 and presenting them together, no doubt in the interests of efficiency and to avoid confusion, we have decided to issue two separate decisions.
8. We recognise that the approach to considering and deciding on a resource consent application under Part 6 of the Act is different to considering and making a decision on a private plan change request made to the Council under clause 21 of Schedule 1 of the RMA, both in terms of the matters that it is mandatory to consider, and the specific requirements of the formal decisions. Accordingly, we will issue two separate decisions to properly reflect that in considering all of the evidence presented to us and making findings on the same, the Panel was very clear as to the relevant statutory requirements pertaining to each decision.
9. Principal issues in contention arising in respect of the resource consent applications, and our findings on them, will be identified as we progress through the matters to be considered, thereby satisfying the requirements of s.113.
10. After hearing and considering all the evidence, submissions and reports, members of the Panel did not agree in final deliberations. We have worked collaboratively on the factual narrative in the decision. The decision to grant the consent is made by Commissioners Parsonson, Watson, Mead and Donovan, as a majority of the Commissioners appointed to hear and determine the application. Commissioner Tepania would have refused consent to the application for the reasons separately recorded at the end of this decision.

¹ Sheena Tepania, Alan Watson, Wayne Donovan, David Mead and Michael Parsonson, appointed and acting under delegated authority under ss 34 and 34A of the Resource Management Act 1991.

² Unless otherwise specified, references to sections and sub-sections are references to sections and sub-sections in the Resource Management Act 1991.

3. NOTIFICATION

11. The application was publicly notified on 26 March 2020. Under s.37 of the RMA, the time period for submissions to be made was doubled to 40 working days, given that the proposal was large and complex, and of high public interest.
12. Submissions therefore closed on 26 May 2020, at which point approximately 753 submissions were received. A further 226 submissions were received by 31 July 2020, with a decision made by Auckland Council under their delegated authority to accept them all, noting that Waste Management had advised that they would have no objection to the acceptance of late submissions received by this date.
13. We note that the doubling of that timeframe and the acceptance of late submissions up to 31 July 2020 took into consideration the implications of the State of National Emergency which was in force between 12:21pm on 25 March 2020 and 12:21pm on Wednesday 13 May 2020. It also reflected the Government's announcements in relation to the Covid-19 Alert System with NZ moving to Alert Level 3 at 1.30pm on 23 March 2020 and Alert Level 4 at 11.59pm on 25 March 2020.
14. In total 981 submissions were received, with 10 in support, 958 in opposition, 12 neutral and 1 indeterminate.
15. The Commissioners were delegated the task of determining the resource consent applications and PC 42 in late June 2020 and directions for the pre-exchange of reports and evidence were issued on 14 July 2020.³

4. MATERIALS EXCHANGED PRE-HEARING

16. Prior to the hearing the following materials were provided to the Commissioners and reviewed:
 - a. A copy of Waste Management's applications for resource consent and plan change request PC 42, including its supporting assessment of environmental effects, prepared in accordance with Schedule 4 and the s.32 evaluation report;
 - b. Further information provided by Waste Management in response to requests from Council officers and specialist reviewers under s.92 and clause 23;
 - c. A copy of all submissions, late submissions and further submissions made on the resource consent applications and PC 42;
 - d. A report under s.42A by Mark Ross, an independent, qualified and experienced resource management planner⁴ contracted by the Council in relation to the resource consent applications, and submissions received;

³ Council received a Memorandum of Counsel for Waste Management dated 25 June 2020 seeking pre-hearing directions.

⁴ A summary of Mr Ross' qualifications and experience was set out in the s.42A Report at page 9.

- e. Technical specialist reviews prepared by other Council officers and independent consultants (included with the s.42A reports), from:

(Specialist Area, Reviewing Specialist)

- Landfill Engineering, Alan Pattle
 - Development Engineering, Steve Cavanagh
 - Geotechnical engineering and Seismicity, Ross Roberts
 - Hydrogeology, Aslan Perwick
 - Water allocation and surface water, Stephen Crane
 - Traffic engineering, Gary Black
 - Regional earthworks (erosion and sediment control), Fiona Harte
 - Stormwater and Industrial and Trade Activities , Dr Arsini Hanna
 - Dam Safety, Don Tate
 - Air Quality (odour and air discharge), Paul Crimmins
 - Human Health Risk, Sharon Tang
 - Waste Acceptance Criteria and Environmental Risk, Natalie Webster
 - Streamworks (Freshwater Ecology), Mark Lowe
 - Terrestrial ecology, Simon Chapman
 - Landscape, natural character and visual, Peter Kensington
 - Lighting, John McKensey
 - Noise and Vibration, Jon Styles
 - Economics, Shyamal Maharaj and Shane Martin
 - Historic Heritage (RC only), Joe Mills
- f. Briefs of evidence (in accordance with s103B(3)), including responses to matters raised in the s.42A reports and submissions from the following experts engaged by Waste Management⁵:
- Tom Nickels, Managing Director, Waste Management – project sponsor.
 - William Kapea, Cultural Adviser.
 - Mike McSaveney, Waste Management - Auckland waste disposal and trends.
 - Gareth James, Transwaste Canterbury - Kate Valley Landfill.
 - Marsha Cadman, Waste Management - Communications.
 - Ian Kennedy, Waste Management - Auckland waste disposal, site selection, alternative options and transport, consultation.

⁵ The evidence comprised non-expert corporate evidence, and expert technical and evaluative evidence from a range of qualified and experienced persons.

- Simonne Eldridge, Tonkin + Taylor - Site selection and lining system.
 - Eleanor Grant, Principal, BECA - Energy from waste technology.
 - Bruce Horide, Waste Management - Design elements, construction and enabling works, landfill operation, Landfill Management Plan, consultation and public access, contingency planning.
 - Dr Penny Kneebone, Tonkin + Taylor - Waste Acceptance Criteria.
 - John Goodwin, Boffa Miskell - Landscape and visual effects.
 - Ian Campbell Stantec - Lighting.
 - Tony Bryce, Tonkin + Taylor - ARL overall project design.
 - Tim Coote, Tonkin + Taylor - Geotechnical.
 - Prof. Edward Kavazanjian, Arizona State University - Liner peer review.
 - Leon Pemberton, Tonkin + Taylor - Hydrogeology.
 - Chris Bailey, Tonkin + Taylor - Contaminant fate and transport modelling.
 - Jenny Simpson, Tonkin + Taylor - Discharges to Air and Health Risk Assessment.
 - Robert Van de Munckhoff, Tonkin + Taylor - Erosion and sediment control.
 - David Bouma, Tonkin + Taylor - Design of Stormwater Ponds.
 - Justine Quinn, Tonkin + Taylor - Aquatic Ecology.
 - Marcus Cameron, Tonkin + Taylor - Marine Ecology.
 - Dr Matthew Baber, Alliance Ecology Ltd - Terrestrial Ecology.
 - Roger MacGibbon, Tonkin + Taylor - Biodiversity mitigation and offsetting.
 - Don McKenzie, Stantec New Zealand - Transportation.
 - Steve Peakall, Marshall Day Acoustic - Noise and Vibration.
 - Dr Mathew Felgate, Maatai Taonga Ltd - Archaeology.
 - Mike Copeland, Brown, Copeland & Company - Economic Impacts.
 - Ian Jenkins, AECOM - Risk and Bond
 - Tony Kortegast, Tonkin + Taylor - Bond methodology.
 - Andrea Brabant, Tonkin + Taylor - Planning (Resource consents).
- g. Briefs of expert evidence (in accordance with s.103B(4)), from the following experts engaged by submitters:⁶

⁶ A number of submitters also helpfully provided the briefs of non-expert evidence they intended to call in advance of the hearing.

- Catherine MacArthur, Freshwater Specialist (for Te Rūnanga o Ngāti Whātua)
- Dr Fleur Maysek, Ecologist (for Te Rūnanga o Ngāti Whātua)
- Greg Carlyon, Planning (for Te Rūnanga o Ngāti Whātua)
- Sue Clearwater, Freshwater (for Department of Conservation)
- Tertia Thurley, Long-tailed bats (for Department of Conservation)
- Jennifer Germano, Frogs and herptofauna (for Department of Conservation)
- Thomas Emmitt, pest management (for Department of Conservation)
- Ilse Corkery, Avifauna and biodiversity offsetting (for Department of Conservation)
- Amy Young, Planning (for Department of Conservation)
- Katherine Dorofaeff (for Auckland Transport)
- Burnette O'Connor, planning (for Skyworks Helicopters and Goatley Holdings Limited)
- Richard Griffiths, Ecologist.

5. COUNCIL'S RECOMMENDATION

17. The Council's s.42A recommendation report on the application ("**s.42A report**") was prepared by Mr Ross (as noted above), and was circulated prior to the hearing in accordance with s 103B(2). The s.42A report canvassed all of the application material submitted by Waste Management in support of the application, further information provided in response to s.92 further information requests from council officers and specialist reviewers, and all submissions received on the application. Mr Ross' s.42A report was informed by and included copies of a number of technical specialist reviews, prepared by other council officers and independent consultants as above.
18. In his report, Mr Ross analysed all of the information in relation to the application. Although not required by s.42A, Mr Ross also included a recommendation that we exercise our discretion to refuse consent to the application for the reasons explained in his report. In summary, although Mr Ross accepted that in most respects, the subject site is well suited for the development of a landfill and with adverse effects able to be internalised or addressed through the mitigation measures proposed, he nevertheless considered it would have more than minor adverse effects on the environment in terms of ecological effects. He noted further that there were also cultural effects to consider, "an evaluation of which can only be undertaken once these matters have been presented by Mana Whenua to the commissioners at the hearing and discussed further in the necessary level of detail."⁷
19. Consequently, Mr Ross also considered that while the proposal would be consistent with a number of provisions within the applicable planning documents, it would

⁷ s.42A report at page 11.

nevertheless be inconsistent with (but not contrary to) those relating to the protection of ecological and biodiversity values in terrestrial and freshwater systems from the adverse effects of development and potentially those that relate to the interests, values and customary rights of Mana Whenua in the sustainable management of natural and physical resources and the protection of cultural landscapes of significance to Mana Whenua.

20. Despite his recommendation, Mr Ross helpfully provided us with a draft set of conditions to be imposed on the consent in the event we came to a different view of the proposal after hearing the evidence presented by the applicant and submitters. A list of potential conditions had been submitted by Waste Management as part of their application. That list had been reviewed and refined by the Council's specialists and was included in Attachment 6 of the s.42A report. Mr Ross noted that they were still in the process of being refined, both in consultation with Council specialists and the applicant.
21. At the end of the hearing, Mr Ross concluded that actual and potential effects will, when taking into account the offsetting and compensation works proposed, be acceptable and that the proposed landfill will, in the round, accord with the provisions of the relevant planning documents. Consequently, he altered the recommendation within his s.42A report to refuse consent to grant the consents with conditions. We refer to Mr Ross' reply evidence and final conclusions on the various matters in contention later in this decision.

6. HEARING PROCEDURE

22. The hearing of both the application and PC 42 commenced at 9.30am on 9 November 2020 at the Warkworth Town Hall. After hearing from the applicant, we adjourned the hearing on 20 November and reconvened on 24 November at the Ngāti Manuhiri Trust Board offices to hear the evidence of Mana Whenua submitters, then returning to the Warkworth Town Hall from 27 November.
23. We express our gratitude to Matua Ōtene Rewiti for the mihi whakatau on the opening day of the hearing and to Ngāti Manuhiri for their pōwhiri, hosting us and other Mana Whenua submitters in Huipapa which was very helpful in providing context to the cultural relationships associated with the area and setting the tone for the remainder of the hearing.
24. One procedural matter was addressed at the outset, namely the acceptance of a late submission received on the application from Fisheries New Zealand. Pursuant to s.37 we resolved to receive this submission on the grounds that it raised similar matters to other submissions and matters that should be taken into account in the public interest, it is neutral to the application, such that there are no adverse implications for Waste Management associated with late acceptance and Waste Management did not object to it being received late.
25. The application materials and s.42A report (and its' specialist reviews) were taken "as read" at the hearing, on the basis that they had been pre-circulated and studied by the Commissioners.

26. Waste Management then presented its case for the proposal and the various resource consents being sought. Counsel presented detailed legal submissions and then called their witnesses in support. Briefs of pre-exchanged evidence were taken “as read” at the hearing on the basis that they had been pre-circulated and studied by the Commissioners, but witnesses were given the opportunity to summarise and/or highlight aspects of their written briefs and where further supplementary briefs were provided either immediately prior to or at the hearing, to read these out in full. Several of Waste Management’s witnesses also presented rebuttal statements of evidence responding to the expert and other evidence that had been provided by submitters.
27. Submitters then presented their cases either in support or opposition to the proposal. The submitters and witnesses who provided us with written statements or briefs of evidence either prior to or at the hearing are listed in the record of appearances at the front of this decision.
28. Tabled statements were received from Waka Kotahi and Fire and Emergency New Zealand.
29. A memorandum was received, signed by counsel for Pouhere Taonga Heritage NZ who had “submitted in opposition to the application”. It advised that an agreement had been reached and that they no longer required to be heard.
30. A number of parties appearing at the hearing were represented by Counsel who presented submissions in support of their clients’ position on the application.
31. At the conclusion of the hearing of submitters, Mr Ross and several of the reporting specialists summarised their assessments and provided responses or further comments on matters that had arisen during the hearing relevant to their areas of expertise. Several provided detailed supplementary evidence in writing, responding to Waste Management’s rebuttal evidence.
32. Prior to the adjournment of the hearing on 17 December 2020, Counsel for Waste Management presented some initial oral reply submissions, the transcript of which was subsequently filed, and he advised the Panel as to the further rebuttal statements of evidence that the applicant intended to file the following week.
33. We received further rebuttal statements of evidence on 21 December 2020 from:
 - Ian Kennedy, Corporate
 - William Kapea, Cultural
 - Bruce Horide, Corporate
 - Simonne Eldridge, Site Selection
 - Anthony Bryce, Landfill Design
 - Timothy Coote, Geotechnical
 - Don McKenzie, Transportation
 - Justine Quinn, Aquatic Ecology
 - Dr Matt Baber, Terrestrial Ecology

- Roger MacGibbon, Offsetting and Compensation
 - Robert Van De Munckhof, Stormwater and Sediment
 - Leon Pemberton, Groundwater
 - Rachel Signal-Ross, Planning (PC 42)
 - Andrea Brabant, Planning (RC).
34. The hearing reconvened on 27 January 2021 when the Panel heard the second statements of rebuttal evidence filed by Waste Management.
35. Counsel for Waste Management then presented the main reply submissions, a written copy of which had been received by the Panel on 25 January 2021. Counsel also presented orally, supplementary reply submissions alongside the main reply submissions which added several additional comments as a result of matters arising from the presentation of Waste Management's final rebuttal evidence on 27 and 28 January 2021. A written record of these points was received by the Commissioners on 29 January 2021.
36. The hearing was adjourned on 28 January 2021 and then subsequently closed on 26 March 2021.

7. PROCEDURAL ISSUES

7.1 TRANSCRIPTION OF MANA WHENUA EVIDENCE

37. At the conclusion of the hearing of Mana Whenua evidence, Counsel for Waste Management asked for a transcript of the recording of evidence heard over three days at the Ngāti Manuhiri offices, with the cost of transcription to be paid for by the Applicant. Counsel submitted this was necessary to ensure the Applicant's team had properly understood all the evidence provided and any new issues that may have arisen in respect of which they may not have had sufficient notice. Counsel submitted that this was a fair and reasonable way to consider what had been said over the course of hearing from Mana Whenua, particularly, given much of the evidence was delivered in te reo Māori.
38. Given the significance of those matters raised by Mana Whenua and in the interests of fairness, transparency and due procedure, we accepted Counsel's request and directed (s.41C) that the evidence which had already been recorded and was readily available on the Council's website, be transcribed by the Council at the cost of the Applicant and put on the record, to address the Applicant's concern that they may have been surprised with evidence they hadn't expected to receive or had not been previously made aware of, largely in te reo Māori. We qualified that direction however, in terms of s.42(1)(a) and noted that while the evidence was to be transcribed, it was not to be translated from te reo Māori. In that respect we were mindful of the way in which that evidence was given to the Panel, the basis on which that information was shared by the submitters and the nature of that evidence, for example *whakapapa*, the subsequent translation of which, may not be properly captured and which may cause serious offence to tikanga Māori.

7.2 EXPERT CONFERENCING

39. On 1 December 2020, Counsel for Waste Management asked the Panel to consider directing technical experts giving evidence on behalf of the Director-General of Conservation, the Applicant and Council to conference, with the aim of narrowing or eliminating points of difference in their assessments.
40. The request was refused on the basis that there remained some two weeks of further evidence to be heard from submitters and the positions taken by the experts were clearly put and divergent on some fundamental matters. We were also mindful of the number of submitters who had not called technical experts and who may consider this excluded them from participation. We did indicate to the applicant that parties were free to conference on an informal basis if willing, and we would receive any follow-up outcomes of that should it occur.

7.3 DISCLOSURE OF SENSITIVE INFORMATION

41. On 17 December 2020, Counsel for Waste Management made an oral request under s.42(1)(b), for an order to avoid the disclosure of commercially sensitive information or cause unreasonable prejudice to the commercial position of Waste Management in relation to further rebuttal evidence they intended to file relating to specific locations of alternative sites considered. That request was refused because we did not consider that given the stage of the hearing, the prejudice outweighed the public interest in making that information available, our priority being to maintain the integrity and transparency of the process. We allowed the applicant discretion on whether the rebuttal was provided but if it was, it would be made public.

7.4 ISSUES RAISED REGARDING THE EVIDENCE OF MR WILLIAM KAPEA

7.4.1 Independent expert evidence

42. Messrs Pou and Enright submitted that Mr William (Bill) Kapea should not be seen as an independent expert (in the sense identified by the Expert Code) and that his evidence should therefore be qualified. Mr Enright stated in oral submissions that, while there was no challenge to Mr Bill Kapea's expertise, an independent expert cannot also be a submitter, or speak for a submitter. In response, Mr Matheson noted that this matter had already been addressed by Mr Bill Kapea in his expert evidence where he confirmed that he was also appearing as a submitter. Mr Matheson submitted that that was all Mr Bill Kapea could have done and we would need to read his evidence in that manner.
43. The Expert Code⁸ requires an expert to acknowledge in their witness statement that they have read the Code of Conduct and agree to comply with it. The expert has an overriding duty to impartially assist the Court (and in this case, the Panel) on matters within the expert's area of expertise and not act as an advocate for the party who engages them. That lack of independence goes to the weight of the evidence.

⁸ Environment Court's Expert Witnesses Code of Conduct (Part 7, Environment Court Practice Note 2014)

44. In confirming compliance with the Code of Conduct, Mr Bill Kapea made the following statements in his expert evidence:
- (a) I have been engaged by Waste Management to provide advice and assistance on cultural matters since early 2018. In advising Waste Management, I have also been very clear that I have a personal interest in the proposal on behalf of my hapū, Ngāti Rango.*
- (b) I have also filed, on behalf of my hapū, two cultural reports (or CVAs as they are sometimes known as) and a submission on behalf of my hapū in support of the ARL project. I will be presenting separate evidence on behalf of my hapū in support of my submission.*
- (c) In preparing this evidence, I have read the sections of the 42A Report prepared relevant to my area of expertise in respect of both the resource consent applications and the private plan change request. I have also re-read the submissions filed by mana whenua on both the plan change and resource consent applications.*
45. In light of Mr Bill Kapea's acknowledgments regarding his personal interest in the proposal, we agree that Mr Kapea should not be seen as an 'independent' expert (in the sense identified by the Expert Code). However, consistent with Mr Matheson's Supplementary Reply Submissions, Mr Bill Kapea's witness statement⁹ and Mr Enright's acknowledgment that Mr Bill Kapea is qualified and that there was no challenge to his expertise - we accept Mr Kapea's evidence in that regard.

7.4.2 Mandate

46. Separate to that is the issue relating to mandate which Messrs Pou and Enright referred to as being more critical. Mr Pou highlighted the concern of Ngāti Manuhiri and Te Rūnanga that the Panel had received evidence from individuals who they considered "non-representative" and who had given support to the application, noting that it was important that the Panel understood the significance of the matter.
47. In this respect, they submitted that, "*In this case, a kaumātua does not speak for the tribe. The mandated authorities, including the Iwi Authorities of Ngāti Manuhiri and Te Rūnanga, Hapū and Marae are united in their opposition to the proposal. This includes the Trustees of Te Aroha Pā Marae.*"
48. Mr Pou emphasised, "*Notwithstanding the fact that Mr Kapea says in his evidence that he makes his submission for his hapū, but if the hapū don't know you are making the submission it is not for your hapū.*"
49. Mr Enright submitted that unlike the case in *Ngati Maru*, this is not a conflict between iwi and hapū authorities and competing evidence around support or opposition for a proposal, because the iwi and hapū authorities here are united in their opposition - putting aside Mr Kapea's evidence in his submission, which we need to balance.

⁹ Statement of Evidence, William Kapea, 8 October (002)

50. Mr Pou submitted that while Mr Bill Kapea's evidence might be evidence to be taken into consideration about the particular views of an individual, it cannot be relied upon as evidence of an iwi view, of a hapū view or even of a marae view.
51. While Mr Matheson did not respond to the concerns regarding mandate, he acknowledged the very valuable advice that he and Waste Management had received from the Kapea-whānau mana whenua kaumātua (Bill Kapea, Te Arahi Kapea, Koro George Albert). He emphasised that Mr Bill Kapea's expertise with mātauranga Māori and in resource management processes in Auckland and elsewhere extends over decades. As he stated, "The Kaumātua advice has been very challenging, but also incredibly helpful in Waste Management (and me personally) better understanding how we can reconcile Te Ao Māori and tikanga, with the western-world legal RMA framework."
52. He acknowledged that the weighing of evidence is a matter for the Commissioners, but cautioned that that must be done in a principled manner.
53. As noted above, Mr Bill Kapea's confirmation of compliance with the Code of Conduct confirmed he had filed, "*on behalf of my hapū, two cultural reports (or CVAs as they are sometimes known as) and a submission on behalf of my hapū in support of the ARL project. I will be presenting separate evidence on behalf of my hapū in support of my submission.*"
54. The two cultural reports referred to by Mr Bill Kapea are:
- Nga Taonga Tuku Iho – February 2020 (First Report)
 - Kate Valley Hikoi – 22 April 2020 (Second Report)
55. Both reports were filed with a submission in support of the application in the name of Mr William Kapea, Te Uri o Ngāti Rango Kaitiaki, on 25 May 2020:
- The First Report records Ngāti Rango opposition to the proposal.
 - The Second Report includes further material, particularly in relation to the Kate Valley Landfill.
56. At the hearing and in response to questions from the Panel Mr Bill Kapea confirmed that:
- the First Report is a Ngāti Rango response;
 - the Second Report had been amended by himself, Mr Te Arahi Kapea and Koro George Albert; and
 - it was not a Ngāti Rango decision to make his submission in support of the application.
57. In his expert rebuttal statement, Mr Bill Kapea clarified that he had not taken the Second Report back to the marae to obtain the necessary authority and mandate to

file the report as there was no opportunity to, given the trip to Kate Valley occurred the week prior to the nation's first Covid-19 Lockdown.

58. Given Mr Bill Kapea's clarification and confirmation during the hearing, of the matters set out above, we do not accept that the submission filed by Mr Bill Kapea in support of the proposal, together with the Second Report, is a submission on behalf of the hapū.
59. However, we do accept that the submission is made in his own name and as with the submission by Mr Te Arahi Kapea, we have given them due weight in that regard.
60. We are satisfied that we need not address the matter of mandate any further than that.

8. SITE VISITS

61. The Commissioners undertook a number of site visits to familiarise themselves with the site, the surrounding area and a modern landfill. The first site visit prior to the hearing included a visit to the Waste Management landholdings and proposed landfill site and the Redvale landfill.
62. Site visits were also undertaken by Commissioners following the hearing returning to the Waste Management landholdings and landfill site, to the location of submitters' properties, to Wellsford and to various locations along the Hōteu River and the Kaipara Harbour.
63. Two of these site visits were self-guided and focused on existing land features and locations identified primarily by submitters through the course of the hearing.

9. EVIDENCE CONSIDERED

64. Section 113(1)(ad) specifically requires us to provide a summary of the evidence we heard at the hearing. The volume of evidence presented to us was considerable and details of the broad contents and conclusions of the evidence as presented by Waste Management and the submitters at the hearing, without going into every witnesses' detailed analysis and opinions, is covered below as part of the discussion on the principal issues in contention with the application. That is, those parts of the evidence that have been important as part of the presentations received, and the decision made. We record that we have reviewed and considered in detail all of the evidence presented to us.

10. DECISION APPROACH

65. We recognise that the approach to considering and deciding on a resource consent application under Part 6 of the Act is different to considering and making a decision on a private plan change request made to the Council under clause 21 of Schedule 1 of the RMA, both in terms of the matters that it is mandatory to consider, and the specific requirements of the formal decisions. Accordingly, we are issuing two separate decisions to properly reflect that in considering all of the evidence presented

to us and making findings on the same, the Panel was very clear as to the relevant statutory requirements pertaining to each decision.

66. Principal issues in contention arising in respect of the resource consent applications, and our findings on them, are identified as we progress through the matters to be considered, thereby satisfying the requirements of s.113.
67. The resource consent application seeks consent for various activities classified under the relevant plan (being the Auckland Unitary Plan (Operative in part) (“**AUP**”)) as controlled, restricted discretionary, discretionary, and non-complying, thus ss.104, 104A, 104B, 104C, 104D, 105 and 107 are substantively engaged in the decision-making process.
68. The mandatory requirements to be considered in s.104 are set out in the table below:

Matter to consider	RCA
Application	s.104(1)
Submissions received	s.104(1)
Part 2	s.104(1)
Actual and potential effects on the environment	s.104(1)(a)
Proposed offset or compensation measures	s.104(1)(ab)
Relevant provisions of NESs	s.104(1)(b)(i)
Relevant provisions of regulations	s.104(1)(b)(ii)
Relevant provisions of any NPS	s.104(1)(b)(iii)
Relevant provisions of the NZCPS	s.104(1)(b)(iv)
Relevant provisions of a RPS	s.104(1)(b)(v)
Relevant provisions of a plan	s.104(1)(b)(vi)
Disregard effects of permitted activities	s.104(2)
Disregard trade competition and written approvals	s.104(3)
Any other matter	s.104(1)(c)
Discretion to approve/decline	s.104A, s.104B, s.104C, s.104D
Matters relevant to discharges	s.105, s.107
Conditioning discretion	s.108, s.108AA
Decision requirements	s.113

11. THE APPLICATION, CONSENT REQUIREMENTS, ACTIVITY STATUS

11.1 THE APPLICATION

69. A detailed description of the proposal and activity was set out in the applicant's Assessment of Environmental Effects ("**AEE**")¹⁰ and was helpfully summarised in the s.42A report with specific reference made to those parts of the application that had been modified and differed from the referenced sections of the AEE.¹¹ The following is a summary of the proposal taken primarily from the s.42A report.
70. Waste Management has applied for resource consent to construct and operate a new regional scale landfill ("**the landfill**") at 1232 State Highway 1 ("**SH1**"), Wayby Valley, between Wellsford and Warkworth, adjoining Dome Valley, Auckland ("**the site**"). The intention for the landfill is for it to be a major provider of essential waste infrastructure to the Auckland region and to replace the existing Redvale Landfill, which is nearing capacity. Redvale Landfill currently takes approximately 50% of Auckland's waste and is due to cease accepting waste in 2028 when its relevant consents expire.
71. The total landholding is approximately 1020ha in area and is accessed directly off the existing SH1 within the Wayby Valley, approximately 6km southeast of Wellsford and 13km northwest of Warkworth. For ease of description, the Waste Management landholdings have been divided into four general areas; the Eastern Block, the Western Block, the Southern Block and the Waiteraire Tributary Block.

11.1.1 General landfill details

72. The proposed landfill will have a footprint of approximately 60ha, with capacity to contain approximately 25.8 million m³ of municipal solid waste. The landfill will be located within what the AEE refers to as the Eastern Block, and specifically within the area referred to as Valley 1.
73. Noting the location of the landfill within the Eastern Block and away from SH1, an access road is proposed from a point approximately 100m east of the boundary with 1207 SH1. The accessway will be approximately 2km long and will provide access from SH1 to the landfill tipping face and other associated landfill amenities (the working landfill).
74. A bin exchange area is proposed adjacent to the entrance from SH1. Waste will be delivered to this area by road haulage trucks in specially designed sealed bins, which will then be exchanged for empty bins, allowing the trucks to leave the site without travelling to the tipping face. Specially designed mule trucks will then transport the bins to the tipping face for disposal, with the empty bins then returned to the exchange area. Vehicles without sealed bins will travel directly to the tipping face to allow for disposal. It is estimated that 25% of trucks will use the bin exchange area with the remaining 75% proceeding directly to the tipping face. A building containing amenities for drivers and office space will be located within the bin exchange area. Existing

¹⁰ AEE, sections 5 to 7, pp. 41-75

¹¹ S.42A, pp 12-16

vegetation will remain around the perimeter of the bin exchange area, and along with additional planting will provide for screening from SH 1.

75. Amenities proposed in proximity to the landfill tipping face include a weighbridge, a wheel wash, a leachate collection tank, and staff office and workshop buildings. A renewable energy centre will also be constructed to allow for electricity generation from the combustion of landfill gas.
76. In addition to the above buildings, a series of stormwater ponds and a wetland are proposed immediately to the west of the landfill toe. A temporary pond is also proposed to the east of the landfill during initial landfill operations. A large soil stockpile (stockpile 1) is proposed to the west of the landfill, with a clay borrow area located further to the west. A smaller topsoil stockpile is also proposed adjacent to the proposed site office. A series of roads will be constructed to provide access between these various amenities (including the buildings referred to above) and the main access road. It is noted that Stockpile 2, which was originally proposed to the east of the landfill, is no longer proposed.
77. The working face of the landfill will operate from 5am to 10pm Monday to Saturday and 7am to 5pm on Sunday, with the bin exchange area to operate 24 hours a day. Approximately 45 staff will be required to operate the landfill along with a range of vehicles, including bulldozers, excavators, compactors, water trucks and utility vehicles. The area of landfill exposure will generally be no greater than 80m by 80m at any one time.
78. Lighting is proposed at the site entrance (from SH 1), within the bin exchange area, around the main office and staff car park area, and at the landfill tipping face. No lighting is proposed along the access road. Lighting at the tipping face will be via a portable lighting rig. A range of measures including the use of low-level and directional lighting, downlights and shields will be implemented to address adverse effects associated with glare and light spill.

11.1.2 Landfill Design and Management

79. In total, earthworks are proposed over an area of approximately 136.4ha and will involve a volume of 5.5 million m³ for the formation of the landfill and associated facilities, including formation of roads and creation of the ponds, wetlands, stockpile and clay borrow areas. Various management plans have been drafted that address construction effects.
80. In brief, we understand that the programmed four-year landfill construction programme would comprise:
 - a. Forest harvesting within the western portion of Valley 1 (by Rayonier Matariki Forests).
 - b. Establishment of temporary site access from Crowther and Jackson Roads. This would require an upgrade of the SH1 / Crowther Road intersection.
 - c. Construction of the SH1 roundabout and bridge over the Waiteraire Stream.

- d. Detailed site investigation within Valley 1 to support detailed landfill design.
 - e. Construction of all sediment retention ponds (SRPs).
 - f. Construction of the site access road, and Bin Exchange Area and other service areas (offices, workshops etc) and associated stormwater treatment measures.
 - g. Establishment of Stockpile 1 and the Clay Borrow Pit.
 - h. Construction of the series of three stormwater ponds and a downstream stormwater treatment wetland (Pond 1).
 - i. Construction of the first stage of the landfill:
 - excavation of surficial soils;
 - undercutting sub-surface flow paths and installation of sub-soil drainage;
 - shaping of landfill base and formation of stormwater channels; and
 - construction of liner.
81. With respect to the management of stormwater-related effects¹², the post-construction operation of the landfill will comprise:
- a. Treatment of stormwater from the Bin Exchange Area via rain gardens.
 - b. Treatment of runoff from the access road via vegetated filter strips and a wheel wash at the top end of the road.
 - c. Treatment of stormwater from the workshop and office area the main stormwater ponds.
 - d. Containment and treatment of runoff from the Energy Centre via tanks and bunds, and runoff from general adjacent areas to the main stormwater ponds.
 - e. Treatment of sediment laden runoff from Stockpile 1 and the Clay Borrow Pit via SRPs.
 - f. Treatment stormwater from the landfill by:
 - minimising the working area of the landfill to an 80m x 80m area with that area temporarily capped by soil at the end of each working and prior to forecast heavy rainfall;
 - isolating the working area with bunds to ensure runoff that occurs beyond that area does not enter the landfill;
 - maintaining the majority of the landfill surface outside of the working area in a stabilised state; and
 - diverting runoff from the landfill surface (other than the working area) to drainage channels sized to carry runoff from in excess of the 100 year storm event (in combination with the design freeboard and adjacent site road formation, potentially in excess of the theoretical 1000 year event) to

¹² Other effects are discussed elsewhere in our decision.

Stormwater Pond 4, 3 and 2 in series. The existing ridgelines surrounding Valley 1 will define the design catchment of the channels.

- g. Discharges from the stormwater ponds will flow into the stormwater wetland (Pond 1) for all flows up to the 2 year rainfall event, with flows greater than that bypassing the wetland.
 - h. The stormwater treatment system has been designed to maintain discharge peak flow velocities to the Valley 1 stream at no more than the existing peak catchment flow velocities up to the 100 year event.
82. An Industrial Trade Activity assessment and management plan has been prepared that addresses the management of hazardous substances and treatment of stormwater runoff from the following areas of the site:
- a. The landfill access road and access roads within the landfill footprint.
 - b. The bin exchange area including parking areas.
 - c. The workshops
 - d. The energy centre.
 - e. The wheel wash.
 - f. All buildings within the Eastern Block catchment which will discharge into the landfill stormwater treatment ponds.
83. The waste receipt areas of the landfill area will be constructed and filled in seven stages with each designed to have approximately five years of capacity. Earthworks associated with cover and capping operations will be ongoing.
84. The leachate containment lining system will comprise compacted clay (sourced from the clay borrow area) placed on each excavated landfill stage, then a high-density polyethylene (“**HDPE**”) flexible membrane liner and additional sealing and protective layers placed above the clay. A drainage layer is then placed above to collect leachate and minimise pressure on the membrane. All water that enters the landfill will be treated as leachate and will be collected by the leachate drainage system.
85. Leachate will be collected and stored in a holding tank, and as far as practical, will be recirculated into the landfill (to allow for additional biodegradation opportunities). Design and conditions will limit the amount of leachate that can accumulate in the landfill itself. All leachate that cannot be redistributed will initially be transported offsite for treatment, with this likely to be the applicant’s Redvale facility. Once sufficient landfill gas is available, an evaporator or equivalent treatment technology will be installed on-site to allow for on-site treatment, such that off-site transportation will no longer be required.
86. Landfill gas will be collected through a series of extraction wells installed throughout the landfill, which will be delivered to the proposed renewable energy centre for electricity generation purposes. A total of 14 1MW generators will be installed within

the centre, being installed progressively as landfill gas generation increases. However, only a maximum of 12 generators will operate at any one time, with the additional generators required to allow for programmed maintenance. Any excess gas collected will be flared.

87. Landfill cover (which will be sourced from the soil stockpiles) will be placed on top of the landfill to minimise leachate generation and landfill gas discharges and to reduce the exposure of waste and adverse effects associated with odour, windblown waste, vermin and birds. This will be applied on a daily and intermediate basis and as a final cap when the landfill reaches its design capacity. The final cap will be compacted clay on top of the upper level of waste, with subsoil and topsoil above and then grass. Any vegetation in addition to the grass will be selected at the time, with species needing to be shallow rooted to ensure that they do not penetrate the lower clay cap.
88. A range of management plans will be designed and implemented for the lifetime of the landfill (including an after-care period following closure), including with respect to: leachate, groundwater, stormwater, landfill gas and sedimentation. A post closure management plan will be prepared a minimum of two-years after closure to address the on-going measures required to ensure that the site is stabilised appropriately and that environmental controls in respect of stormwater, leachate and landfill gas are suitably managed.

11.1.3 Traffic

89. The landfill will be accessed from SH 1 with a new roundabout proposed to allow for this. The roundabout will have a single circulation lane with a 40m diameter central island. The AEE noted that consultation with Waka Kotahi NZ Transport Agency (“**Waka Kotahi**”) was to occur with respect to design requirements, with the design to be subject to further detailed design and safety audit requirements. This was confirmed in the submission from Waka Kotahi.
90. Approximately 740 vehicle movements (both inbound and outbound) are anticipated per day, with approximately 55 movements proposed during morning and evening peak hours. Most vehicles will approach the site from the south along SH 1, noting that this would change, with most vehicles approaching from the north if the Warkworth to Wellsford highway upgrade is consented and constructed. However, as there is no certainty that this will occur, traffic has been modelled based on a majority southern approach.
91. The access road into the site will be just under 2km in length, extending from the proposed roundabout to the working landfill. The width of the road will be 7.2m with an overall gradient of approximately 7.4%, with a design of less than 8% required to allow for use by refuse trucks.
92. To allow for the proposed access road to be constructed, a bridge is proposed over the Waiteraire Stream. Originally a culvert was proposed approximately three quarters of the way along its length but that has since been replaced with a bridge.

11.1.4 Water Take

93. A previously drilled (and consented) bore is located to the southeast of the landfill office building and will be utilised to allow for a potable water supply. While it is anticipated that the daily demand will be 20m³, consent is sought for a take and use of up to 50m³ per day.
94. To allow for a non-potable water supply for dust suppression, vehicle washing, road washing and firefighting purposes, a 150m³ per day take is proposed from the stormwater ponds.

11.1.5 Streamworks and Vegetation Clearance

95. To allow for the development of the proposed landfill area and associated works, including the access road, the following streamworks and vegetation clearance works are proposed:
 - Removal of approximately 86.88ha hectares of plantation forestry, approximately 9.11ha of wattle forest, approximately 4.83ha of indigenous regenerating forest, approximately 0.67ha of indigenous mature forest and 17.3ha of pasture
 - Approximately 13,915m of stream reclamation, including approximately 7,724m of intermittent streams and 6,191m of permanent streams. This excludes approximately 1,300m of reclamation associated with Stockpile 2, given that this stockpile is now no longer proposed
 - Approximately 1.37ha of wetland reclamation, including approximately 0.7ha of indigenous wetland, 0.64ha of exotic wetland and 0.03ha of kahikatea pukatea forest.
96. To address adverse effects associated with these works, a range of measures are proposed by the applicant, including:
 - Enhancement and / or protection of approximately 15km of identified streams within and outside the applicant's landholdings and within a further 30km of streams that are yet to be identified
 - Planting of approximately 9.9ha of native terrestrial vegetation within the applicant's landholdings
 - Protection via covenant of 111.9ha of indigenous forest outside the applicant's landholdings
 - Planting and protection of approximately 4.63ha of degraded wetlands within the subject site
 - Planting of wetland buffers of 10m or 5m around significant ecological area ("SEA") and non-SEA wetlands within the subject site, with a total area of approximately 15.18ha

- Covenant protection of all wetland habitats within the subject site, being an area of approximately 25.59ha
- The implementation of a general ecological management plan and a range of specific management plans relating to Hochstetter's frogs, long-tailed bats, avifauna, lizards, fish, invertebrates and vegetation
- Pest management over an area of approximately 856.9ha within and outside the applicant's landholdings.

97. In addition to the proposed planting for ecological purposes, shelterbelt and additional plantings are proposed to provide visual screening of the site entrance, bin exchange area and working landfill, both during its operation and upon closure.

11.1.6 Other Amenities

98. The AEE notes that walking and cycling opportunities will be provided within the applicant's landholdings where practical and that additional recreational opportunities, including mountain bike tracks, will be explored within the adjoining Sunnybrook Scenic Reserve, noting that the latter would require landowner approval.

11.1.7 Changes since lodgement

99. Waste Management's Opening Legal Submissions described the material changes to the project since lodgement, confirming that all such amendments are within the scope of the consents sought and accordingly no jurisdictional issues arise. The changes were described as follows:¹³

"2.3...

(a) The SH 1 roundabout has been located more on Waste Management land. This allows more of the roundabout to be constructed without impacting on flows on SH 1, thereby reducing the potential construction impacts on through traffic flows. It also avoids the need to excavate any land on the western side of SH 1, and avoids the need to carry this material across SH 1 for disposal.

(b) Stockpile 2 has been removed. This has resulted in a slight increase to the footprint of Stockpile 1 (ie the Stockpile Area), but not to any extent that would give rise to any additional matters needing assessments and nor does the very small increase in size give rise to the need for any additional consents. There is no increase in maximum height of the Stockpile Area.

(c) At about chainage 1500 on the Access Road, the road crosses a tributary of the Waiteraire Stream. This was proposed to be the site of earthen embankments and a long culvert (c. 105m in length). That culvert has now been removed from the design, and instead there will be a single span bridge between two earth abutments. These abutments will be constructed of reinforced earth so as to minimise any effect on the surrounding land, and it will avoid the streambed and the adjacent Natural Stream Management Area ("NSMA").

¹³ Waste Management Opening Legal Submissions, p. 7, para 2.3

(d) There are a number of wetlands on the Western Block, including some that are classified by the AUP as Significant Ecological Area ("SEA") – Terrestrial and some that are considered to be wetland but are not classified as SEA. Waste Management had originally proposed that there would be a 5m setback from these non-SEA wetlands within which setback there would be no re-planting of pine forest. In order to provide an additional buffer and so as to reduce effects of those areas of wetland, in its evidence-in-chief Waste Management proposed a 10m setback. Further additional setbacks and native replanting is now proposed for the Wayby Valley South wetland, as shown on the Proposed Revegetation Plan attached to the rebuttal evidence of Mr MacGibbon.

100. While the above matters describe the changes to the physical components of the landfill proposal, Counsel noted that there had been a number of changes made since the s.42A report for the application, including changes to the proposed mitigation and offsetting package and the proposed conditions of consent in order to address potential adverse effects.¹⁴
101. During the presentation of rebuttal evidence and Waste Management's reply submissions, amendments to existing proposed conditions or additional conditions were discussed with the Panel. Waste Management set out in its Supplementary Reply Submissions, the final amendments to the conditions being proposed.
102. In recognition of the concerns expressed by submitters and to enhance the benefits of the proposal, Waste Management offered (by way of an *Augier* condition), to accept waste excavated through the remediation of historic and unlined landfills (or "tips" and "dumps") located within the Kaipara catchment. A draft condition providing for this was included with the Supplementary Reply Submissions.¹⁵
103. Waste Management provided greater clarity with proposed amendments to the proposed conditions that waste not meeting the waste acceptance criteria will not be accepted at the ARL.¹⁶
104. At the request that the proposed conditions more explicitly provide for the priority of finding stream offset sites within the catchment of Te Awa Hōteu, the following was included:
 - (a) Overarching principles for the identification of restoration sites including a preference for sites within the Hōteu and Kaipara catchment and in close proximity to the location of development where this will result in the best ecological outcome. Enhancement sites shall be identified within the Te Awa Hōteu catchment. In the event that sufficient sites cannot be identified within that catchment, sites will be identified within the Kaipara Moana catchment as a first priority, and then within the Auckland Region.¹⁷
105. To address concerns that the harvesting of forestry prior to landfill operations may have an unintended consequence on the baseline monitoring for sediment discharges, Waste Management proposed an amendment to conditions to ensure at

¹⁴ Waste Management, Opening Legal Submissions, p. 8, para 2.4

¹⁵ Waste Management, Supplementary Reply Submissions, 29 January 2021, para 6.2

¹⁶ *Ibid*, at 6.3

¹⁷ *Ibid*, at 6.4

least four years of baseline data be obtained from the unharvested pine forest catchments before establishment works commenced at the landfill site.¹⁸

11.2 RESOURCE CONSENT REQUIREMENTS

106. It was common ground that the proposal requires resource consents under the AUP for the following activities:

11.2.1 Land use consents (s9) – LUC60339671

District

E12 Land Disturbance – District

- The undertaking of earthworks over an area of approximately 136.4ha within a rural zone, is a restricted discretionary activity under Rule E12.4.1(A6)
- The undertaking of earthworks involving a volume of approximately 5.5 million m³ within a rural zone, is a restricted discretionary activity under E12.4.1(A10).

E15 Vegetation Management and Biodiversity

- The removal of approximately 5.5ha of contiguous indigenous vegetation within a site outside the rural urban boundary, is a restricted discretionary activity under Rule E15.4.1(A10).
- The removal of vegetation within a riparian area and within a Natural Stream Management Area Overlay, is a restricted discretionary activity under E15.4.1(A12).
- The removal of vegetation within 10m of a rural stream within the Rural – Rural Production Zone, is a restricted discretionary activity under Rule E15.4.1(A17).
- The removal of vegetation within 20m of a natural wetland, is a restricted discretionary activity under Rule E15.4.1(A18).

E26 Infrastructure

- The provision of an electricity generating facility within a rural zone, is a discretionary activity under Rule E26.2.3.1(A63).

E27 Transport

- The construction and use of a vehicle crossing from SH1, being a situation where a vehicle access restriction applies, is a restricted discretionary activity under Rule E27.4.1(A5).

¹⁸ Ibid, at 6.5

E36 Natural Hazards and Flooding

- The provision of new structures and buildings within a flood plain, is a restricted discretionary activity under Rule E36.4.1(A37).
- Diverting or reducing the capacity of an overland flow path, is a restricted discretionary activity under Rule E36.4.1(A41).
- The provision of new structures and buildings within an overland flow path, is a restricted discretionary activity under Rule E36.4.1(A42).
- The provision of new infrastructure within a flood plain and an overland flow path, is a restricted discretionary activity under Rule E36.4.1(A56).

H19 Rural Zones

- The establishment of a managed fill in the Rural – Rural Production Zone, is a discretionary activity under Rule H19.8.1(A66).
- The establishment of a landfill in the Rural – Rural Production Zone, is a non-complying activity under Rule H19.8.1(A67).

Regional

E11 Land Disturbance – Regional

- Earthworks over an area greater than 2,500m² where the slope is greater than 10 degrees within a rural zone, is a restricted discretionary activity under Rule E11.4.1(A8).
- Earthworks over an area greater than 2,500m² within a sediment control protection area within a rural zone, is a restricted discretionary activity under Rule E11.4.1(A9).

Note: The location of all proposed earthworks is known but the exact breakdown of earthworks applicable to each infringement has not been provided, and is not relevant to the consideration of the application.

E33 Industrial and Trade Activities

- The use of the site for a new industrial or trade activity, being a landfill, which is listed as high risk in Table E33.4.3, is a controlled activity under Rule E33.4.1(A8).

11.2.2 Streamworks consent (ss13 and 14) – LUS60339672

E3 Lakes, Rivers, Streams and Wetlands

- The crossing of a wetland with a road, being an activity not otherwise provided for, is a discretionary activity under Rule E3.4.1(A1).

- The placement of felled logs within wetlands to improve biodiversity values, being an activity for the purposes of habitat enhancement, is a restricted discretionary activity under Rule E3.4.1(A5).
- The diversion of streams to a new course and associated disturbance and discharge of sediment, is a discretionary activity under Rule E3.4.1(A19).
- The construction of culverts within streams that are more than 30m in length when measured parallel to the direction of water flow and located outside a prescribed overlay, is a discretionary activity under Rule E3.4.1(A33).
- The construction of a bridge within a Natural Stream Management Area Overlay, is a discretionary activity under Rule E3.4.1(A29).
- The reclamation of approximately 13,915m of intermittent and permanent streams, is a non-complying activity under Rule E3.4.1(A49).
- The reclamation of approximately 1.37ha of wetlands, is a non-complying activity under Rule E3.4.1(A49).

Note: The applicant has confirmed that all discharge outlets within streams will be designed to meet the relevant permitted activity standards such that they do not require consents.

11.2.3 Water permit (s14) – WAT60339673, WAT60343935, WAT60343932, WAT60343937, WAT60343938, WAT60343938 & WAT60343939

E7 Taking, Using, Damming and Diversion of Water and Drilling (WAT60339673)

- The take and use of up to 150m³ per day of surface water from the proposed stormwater pond / dams for non-potable water use, is a discretionary activity under Rule E7.4.1(A9).

E7 Taking, Using, Damming and Diversion of Water and Drilling (WAT60343935)

- The take and use of up to 50m³ per day of groundwater for potable water use, is a discretionary activity under Rule E7.4.1(A26).

E7 Taking, Using, Damming and Diversion of Water and Drilling (WAT60343932)

- The diversion of groundwater associated with excavations that exceed the permitted activity standards in terms of the duration of the works and the depth of excavation relative to groundwater levels, is a restricted discretionary activity under Rule E7.4.1(A28).
- Dewatering associated with a groundwater diversion that does not meet the associated permitted activity standards as set out above, is a restricted discretionary activity under Rule E7.4.1(A20).

E7 Taking, Using, Damming and Diversion of Water and Drilling (WAT60343937)

- The provision of an off-stream dam (stormwater pond 2) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m³ of water, is a discretionary activity under Table E7.4.1(A35).

E7 Taking, Using, Damming and Diversion of Water and Drilling (WAT60343938)

- The provision of an off-stream dam (stormwater pond 3) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m³ of water, is a discretionary activity under Table E7.4.1(A35).

E7 Taking, Using, Damming and Diversion of Water and Drilling (WAT60343939)

- The provision of an off-stream dam (stormwater pond 4) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m³ of water, is a discretionary activity under Table E7.4.1(A35).

11.2.4 Discharge permit (s15) – DIS60339670

E4 Other Discharge of Contaminants

- The discharge of contaminants to land, being leachate irrigation back onto the proposed landfill, is a discretionary activity under Rule E4.4.1(A15).

Note: Prior to the close of the hearing the applicant confirmed that this was no longer part of the proposal¹⁹.

11.2.5 Discharge permit (s15) – DIS60343735

E8 Stormwater – Discharge and Diversion

- The diversion and discharge of stormwater from more than 5,000m² of impervious area outside an urban area, being an activity that is not otherwise provided for, is a discretionary activity under Rule E8.4.1(A10).

11.2.6 Discharge permit (s15) – DIS60343736

E13 Cleanfills, Managed Fills and Landfills

- Discharges from managed fills, are a controlled activity under Rule E13.4.1(A4)
- Discharges from a new landfill, are a non-complying activity under Rule E13.4.1(A9)

¹⁹ Bruce Horide - response to questions – 27.01.21

- Discharges associated with the placement and compaction of material associated with a landfill, being an activity that is not specifically classed in a rule as a permitted, controlled, restricted discretionary, discretionary, non-complying or prohibited activity, are a discretionary activity under Rule C1.7.(1).

11.2.7 Discharge permit (s15) – DIS60343780

E14 Air Quality

- Discharges to air from evaporation of leachate, being an activity that may not meet permitted activity standards and is not provided for by any other rule, are a discretionary activity under Rule E14.4.1(A2).
- Discharges to air from the combustion of landfill gases, being an activity not meeting permitted, controlled or restricted discretionary activity standards, are a discretionary activity under Rule E14.4.1(A54).
- Discharges to air from the bin exchange area, which functions as a refuse transfer station, are a controlled activity under E14.4.1(A154).
- Discharges to air from a landfill that do not comply with restricted discretionary or discretionary activity standards, are a non-complying activity under E14.4.1(A160).

11.2.8 Discharge permit (s15) – DIS60343781

E33 Industrial and Trade Activities

- The discharge of contaminants from a new industrial or trade activity, being a landfill, which is listed as high risk in Table E33.4.3, is a discretionary activity under Rule E33.4.2(A24).

11.3 CONSENT STATUS OF THE APPLICATION

107. There was no contention between the Council's planner and the Applicant's planner about the individual and overall activity status' and we have adopted that same approach.
108. In this instance, consent is required under the AUP for controlled, restricted discretionary, discretionary and non-complying activity matters. With all of the relevant assessment matters overlapping, we have considered and determined the applications together (i.e. "bundled") as one proposal with an overall non-complying activity status.

12. DOCUMENTS LODGED

109. The following documents were provided by Waste Management in support of the proposal at the time of lodgement:

- a. Assessment of Environmental Effects (AEE) Report;
- b. Technical reports and supporting documents;
- c. Draft conditions; and
- d. A plan and drawing set.

13. SUBMISSIONS RECEIVED

110. A large number of submissions were received that either supported, opposed or were neutral about the application. Supportive submitters pointed to the benefits of the proposal as reason for their support. Opposing submitters were concerned with many aspects of the proposal, including its environmental effects during construction and its long term impacts such as traffic and the risk of discharges to downstream environments. Neutral submitters generally sought provision for certain outcomes in conditions in the event the application was approved. Not all submitters appeared at the hearing in support of their submissions. Some tabled further material for us to consider, while others, having pre-exchanged written evidence, chose not to attend.
111. We have not provided a detailed summary of the evidence presented by submitters due to their number and extensive matters covered but we deal with all matters extensively in our following analysis. We have benefited from the comments and analysis provided. We were impressed by the extent to which submitters had sought to understand the complex landfill management measures proposed and to organise their submissions into a coherent response.
112. Recurrent themes included:
 - a. Impacts on cultural values and cultural wellbeing.
 - b. Use of alternatives to landfills, such as waste to energy.
 - c. Transport impacts and traffic safety.
 - d. Transfer of rubbish to the site by way of rail, rather than road.
 - e. Concern over high rainfall in the Dome valley area.
 - f. Uncertainty over geological conditions and potential instability.
 - g. Sediment effects.
 - h. Escape of leachate into ground and/or surface water.
 - i. Loss of ecological values and adequacy of mitigation, offsets and compensation.
113. If there was one overarching theme it was a concern, given the multi-decade life of the landfill (including construction, operation and after care) that there would always be a risk that there would be some sort of failure of the landfill, with drastic consequences for the health of the Hōteu and Kaipara.

14. RELEVANT STATUTORY PROVISIONS

114. The statutory framework for consideration of the proposal is found in Part 6 of the RMA. It is this framework and the matters it directs us to have regard to that has framed our consideration and determination of the application.

14.1 PART 2

115. The relevance of Part 2 of the RMA in this assessment framework has recently been clarified by the Court of Appeal.²⁰ Counsel for Waste Management referred us to that decision and submitted the following statements of law made by the Court are directly applicable to this application²¹:

- (a) Unlike planning documents, it cannot be assumed that any particular proposal will reflect the outcomes envisaged by Part 2 – because those proposals are not the outcome of the planning process set out by Part 4 of the RMA;²²
- (b) Planning documents may not furnish a clear answer as to whether consent should be granted or declined;²³
- (c) Section 104, the key machinery provision for dealing with applications for resource consent, requires they be considered having regard to the relevant planning documents, it plainly contemplates reference to Part 2;²⁴
- (d) The requirement in Part 2 must be complied with in disposing of any application for resource consent, and indeed it is untenable to suggest to the contrary:²⁵

"That conclusion would apply even without the words "Subject to Part 2" in s 104(1); but they underline the conclusion. As the Privy Council said in McGuire ss 6, 7 and 8 constitute "strong directions, to be borne in mind at every stage of the planning process."

116. Counsel for Waste Management also submitted that in turning to Part 2 for the consent application, the Commissioners must apply Part 2 in a holistic manner.

117. While Counsel for Ngāti Whātua and Ngāti Manuhiri focused their submissions on sections 6(e), 7(a) and 8 RMA, they also submitted that all parts of Part 2 are relevant and any consideration of Part 2 RMA must be done holistically, a matter corroborated by Counsel for DG-Conservation, Ms Ulrich.

118. We accept these submissions.

14.2 APPROACH TO S.104 MATTERS

119. Section 104(1) sets out the mandatory matters to which we must have regard when considering the application and any submissions received. It requires the consent authority, when considering a resource consent application and any submissions received, subject to Part 2, to "have regard to" the various matters listed in subsections (a) to (c). The approach to the various matters in s.104(1) is well established: the directive "*must have regard to*" does not mean "*must give effect to*". Rather it simply

²⁰ *R J Davidson Family Trust v Marlborough DC* [2018] NZCA 316 & (2018) 20 ELRNZ 367 at [73] – [76].

²¹ Waste Management, Opening Legal Submissions, p. 58, para 5.116

²² *RJ Davidson Family Trust v Marlborough District Council* [2018] NZCA 316 at [51]

²³ At [51]

²⁴ At [51]

²⁵ At [52]

requires decision-makers to give genuine attention and thought to the matters set out.²⁶

120. The relative weight to be accorded the matters listed in s.104(1)(a)-(c) is for the decision maker, on the evidence. Flexibility is important when approaching this task, in the sense that the relative importance that various considerations have, and the manner in which they interrelate, will vary according to context.²⁷ But this does not mean that the wording of policy provisions can be ignored or ‘read down’ to suit an outcome. In *RJ Davidson Family Trust v Marlborough District Council*²⁸ the Court of Appeal explained how a plan is brought to bear on a consent application under s.104(1) as follows:²⁹

“A relevant plan provision is not properly had regard to (the statutory obligation) if it is simply considered for the purpose of putting it on one side. Consent authorities are used to the approach that is required in assessing the merits of an application against the relevant objectives and policies in a plan ... the result of a genuine process that has regard to those policies in accordance with s 104(1) should be to implement those policies in evaluating a resource consent application.”

14.3 SECTION 104D – NON-COMPLYING ACTIVITIES

121. The proposal is a non-complying activity. Section 104D requires that the application passes at least one limb of the “gateway test” before we can advance to our full assessment under s.104(1).
122. That test is set out as follows:

“(1) Despite any decision made for the purpose of section 95A(2)(a) in relation to adverse effects, a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either —

(a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or

(b) the application is for an activity that will not be contrary to the objectives and policies of—

(i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or

(ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or

(iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.”³⁰

²⁶ *Foodstuffs (South Island) Ltd v Christchurch CC* (1999) 5 ELRNZ 308; [1999] NZRMA 481 (HC).

²⁷ *Albert Road Investments Ltd v Auckland Council* [2018] NZEnvC 102. See also *The Warehouse Ltd v Dunedin CC* EnvC C101/01; *R v CD* [1976] 1 NZLR 436.

²⁸ [2018] NZCA 316.

²⁹ *Ibid* at [73]-[74].

³⁰ East-West Link Report and Decision, pp. 35-36 at para [129]

123. We note that offsets and compensation are not taken account of in our s104D(1)(a) assessment of adverse effects, as those represent benefits of the proposal, albeit occasioned by the residual adverse effects. However, offsets and compensation are taken account of in our s104D(1)(b) assessment as those are explicitly provided for in various objectives and policies of the AUP.
124. If we grant consent, we may impose conditions under s 108, provided they comply with s.108AA.

15. EFFECTS ON THE ENVIRONMENT

15.1 INTRODUCTION

125. This section of our decision addresses the principal effects of the proposal that remained in contention at the close of the hearing. We note the opposition to the proposal, and that most effects considered through the hearing remain at large. Our analysis will inform our subsequent decision under s.104D(1)(a), the first limb of the non-complying activity gateway test. While below we provide an integrated analysis, in applying it to the gateway test, we will not take account of any offsets or compensation offered. Subject to the proposal passing either limb of the gateway test, we will then adopt this analysis for our s.104(1)(a) and s.104(1)(ab) assessments.
126. We note that the following represents the majority view of the four Commissioners with Commissioner Tepania's dissenting view at section [23].
127. The extensive range of principal issues that remain in contention, listed in the order that we address them, are:
- a. Positive effects
 - b. Landfill design and surface water management
 - c. Geotechnical design and tomos
 - d. Liner design and leachate containment
 - e. Hydrogeology
 - f. Stormwater
 - Rainfall, flooding and stream erosion
 - Temperature effects
 - Dams
 - g. Sediment
 - h. Aquatic Ecology
 - Loss of freshwater aquatic habitat and biota
 - Impacts on wetlands and wetland birds
 - Offsite offset
 - i. Terrestrial ecology
 - Pine forest
 - Long-tailed bats
 - Adequacy of offset/compensation modelling approach

- j. Leachate
- k. Landscape and visual
- l. Rural character, community, wellbeing and amenity
- m. Transportation and traffic safety
- n. Odour and air quality
- o. Noise and vibration
- p. Archaeology and historic heritage (not a significant issue but included for completeness)
- q. After care: bond
- r. Risk
- s. Cultural values and Mana Whenua interests.

128. We note that not all the environmental effects of the project were in contention. We were helpfully presented with detailed reporting from Waste Management, via its AEE for the proposal, a thorough review of that reporting by a large team of Council specialists and then evidence from Waste Management and further comment by Council specialists on residual issues, with little in dispute. We do not propose to set out in depth the evidence we heard in relation to uncontentious assessment matters. Where effects were in contention on the evidence, we have provided a more detailed analysis and set out our findings.

15.2 EXISTING ENVIRONMENT (SECTION 104(1)(a))

129. We set out here our understanding of the relevant natural and physical resources that comprise the existing environment for the purposes of considering the effects of the proposal.

15.2.1 Receiving environment

130. In his s.42A report, Mr Ross noted that the receiving environment is made up of:

- The existing environment and associated effects from lawfully established activities
- Effects from any consents on the subject site (not impacted by the proposal) that are likely to be implemented.
- The existing environment as modified by any resource consents granted and likely to be implemented.
- The environment as likely to be modified by activities permitted in the plan.³¹

³¹ Section 42A, p.25

131. The s.42A report sets out a description of the receiving environment:

“In this instance, the receiving environment includes the subject site, which is large in size and located within a rural setting, being occupied by a mixture of plantation pine forest, indigenous vegetation and open pasture land. Land topography is undulating, with a series of ridgeline and gullies present throughout and particularly in the northern, southern and eastern portions. It is within these areas that the Pine forests and indigenous vegetation is located, with access provided via a series of unsealed tracks that are navigable by 4WD. Pasture is located to the west along with an airstrip. Streams are located throughout the subject site with wetlands located in the Western Block. Ecological values are confirmed as being very high, noting that the site provides habitat for a range of flora and fauna, some of which are defined as nationally threatened or at risk.”³²

132. The surrounding environment is described as follows,

“The surrounding environment, other than Sunnybrook Scenic Reserve to the south (which is zoned Open Space – Conservation), is entirely rural in nature. Vegetation, whether it be pine forests or indigenous vegetation, occupies most of the land to the north, south and east, with open pasture land being the primary land use to the west and northwest. The settlement of Wellsford commences approximately 3 km to the northwest of the closest point from the subject site. There are adjoining sites that contain residential dwellings, with a mixture of distance, topographic differences and intervening vegetation being such that most will have limited, if any, visibility of the areas where the landfill amenities are proposed. Dwellings at 1232, 1232A and 1282 State Highway 1 are located to the west on relatively low-lying land and will have a level of visibility of the proposed clay borrow, stockpile 1 and potentially the topsoil stockpile, all of which will be located within the Western Block. Visibility of the landfill operation will be limited as a consequence of dwelling orientation and distance. As previously noted, 1232 State Highway 1 is now owned by the applicant with 1282 State Highway 1 being a property identified for purchase by Waka Kotahi to facilitate their proposed Warkworth to Wellsford State Highway upgrade. Dwellings to the northwest along Wayby Valley Road and within the closest portions of Wellsford will likely have visibility of portions of the working landfill but only at distance and only once the landfill nears completion.”³³

133. Many submitters essentially challenged the “existing environment” on the basis that little consideration was given to Te Awa Hōteu and the nexus of the river to the site, the role that river has to play in the catchment and the Kaipara Harbour.

134. We note that Te Awa Hōteu is at the western end of the site just outside the landholdings along a portion of its western boundary and the Waiteraire Stream is to the south-east adjoining the boundary with the Sunnybrook Reserve and the wider Dome Forest Conservation Area. As Te Awa Hōteu flows into the Kaipara Harbour, both are therefore the receiving environment for the landfill.

135. Mr Ross advised that, “There are no unimplemented consents of relevance that are likely to be implemented that I am aware of.”

³² Section 42A, p.25

³³ Section 42A, pp.25-26

15.3 SECTION 104(2)

136. Section 104(2) gives consent authorities the discretion to disregard adverse environmental effects of a proposed activity if the applicable plan permits an activity with that effect.

15.3.1 Effects that may be disregarded – Permitted baseline assessment

137. The permitted baseline refers to permitted activities on the subject site and comparing the adverse effects that may result from those activities with adverse effects that may result from the proposed development.
138. In his s.42A report, Mr Ross considered that in this instance, noting the scale of the proposed development, and that no works similar to those proposed could be undertaken on site as a permitted activity, there is no permitted baseline that can be used for comparative purposes in assessing adverse effects that may result from the proposed development. He further noted that the submitted AEE had not incorporated a permitted baseline assessment.³⁴ Similarly, neither in its evidence or submissions for the hearing did Waste Management seek to assert a relevant baseline of effect and contend that we exercise our discretion under s.104(2) to disregard it.
139. We do note that the harvesting of pine trees from Valley 1 is permitted, subject to the requirements of the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 and the earthworks rules and standards of the AUP. As discussed later, this matter is of relevance to the ecological assessments and evidence received.

15.3.2 Effects that must be disregarded

Any effect on a person who has given written approval to the application

140. Effects on adjoining landowner, Matariki Forests, must be disregarded, as they have provided their written approval.³⁵

Trade competition

141. Trade competition is not relevant in this instance, with no submissions having been made by trade competitors of the applicant.

15.4 POSITIVE EFFECTS

142. The proposed landfill will have positive effects as set out in the AEE with the application and as described in the evidence of Andrea Brabant for the applicant.
143. The most significant positive effect was seen by Ms Brabant to be the provision of essential infrastructure to Auckland, that infrastructure serving the wider public good and enabling the safe and efficient functioning of residential and business activities. Ms Brabant pointed out that the proposed landfill is designed and is to be operated so that waste is appropriately contained which then avoids the potentially significant

³⁴ S42A, p. 25

³⁵ See Attachment 4 to the s.42A report

adverse effects associated with the uncontrolled disposal of waste that can be seen in some overseas countries.

144. Another positive effect was identified by Ms Brabant as being the use of biomass to generate renewable energy and to feed this back into the national grid. She pointed out that this was currently carried out at the Redvale Landfill, as operated by Waste Management. In addition, the proposed landfill would be a contributor to the economy as an employer and a purchaser of goods and services. The economic effects were specifically discussed in the evidence of Michael Copeland for Waste Management. There would also be some recreational opportunities provided within the Waste Management landholdings as part of the proposal.
145. Mr Copeland concluded that the overall net economic effects of the project were positive. He identified the economic benefits as including additional employment incomes and expenditure in the locality; waste transport cost savings and reduced road transport emissions; and congestion and accidents whilst acknowledging these benefits were not all readily quantified. The economic costs included foregone alternative land uses; savings on public infrastructure costs, with WMNZ providing its own infrastructure; and localised road congestion costs.
146. Mr Ross, as the reporting officer for Council, debated the magnitude of these positive effects, pointing out that the proposed landfill would be a replacement for the Redvale facility and in other respects, not all the identified works would necessarily be carried out.
147. We accept Mr Ross's concerns as being well founded and add caution about accepting waste transport cost savings, reduced road transport emissions; and reduced congestion and accidents as benefits of a landfill distant from the primary sources of waste. However, we also acknowledge the applicant has set out the positive effects, that is, the benefits that could result from the establishment of the proposed landfill. The primary benefit would be the establishment of a refuse landfill facility that is needed to provide for the future needs of Auckland.
148. William Foster submitted in opposition to the proposed landfill, his submission being largely based on economic considerations. We acknowledge the considerable work that he had put into the submission. His concerns for the proposal include his views there had been insufficient assessment of alternatives; the proposal being contrary to Council's planning for waste; the lack of substance to involving the community; and concluding with discussion on the type of conditions needed for a landfill consent. We note the concerns expressed by Mr Foster in his submission and at the hearing but in terms of the range of evidence we heard, cannot find agreement with him. The matter of alternatives was addressed in a range of statements for the applicant, including the rebuttal evidence from Mr Copeland. We do however agree with Mr Foster in respect of concerns for the community liaison group and also, for a remediation trust fund. We note that conditions are proposed in that regard.
149. We find that on the evidence before us, a new landfill is required to provide for the future needs of Auckland. It will contribute to the efficient operation of the region. Our decision then must address whether this proposal, which seeks to achieve that outcome, is appropriate.

15.5 LANDFILL DESIGN AND SURFACE WATER MANAGEMENT

150. Mr Bryce described the landfill design and its construction and it is summarised in Section 10.1.2 of this Decision. Our technical understanding of those elements was expanded by the evidence of various experts and in particular Mr Coote (geotechnical), Ms Eldridge and Professor Kavazanjian (liner design and leachate management), Mr Van de Munckhof (stormwater and sediment management) and Mr Bouma (dam design and safety).
151. The physical management of the landfill operation was primarily explained by Mr Horide, with evidence regarding the monitoring and management of potential effects provided by others.

15.6 GEOTECHNICAL DESIGN AND TOMOS

152. Albeit with an absence of expert evidence, extensive submissions were received on the geotechnical and groundwater characteristics of the site, and how those elements rendered the site unsuitable for the proposed landfill. In summary, those submissions were that:
- a. The underlying geology comprises limestone, fractures and faults.
 - b. The geology leads to a significant network of tomos, being subsurface channels that form by the movement of groundwater and cause collapses in the ground surface.
 - c. Seasonal variation in groundwater that can result in springs occurring high up on valley sides during winter.
153. These attributes were considered likely to result in an elevated risk of significant instability and landfill failure, including new tomos forming under the liner that will compromise the integrity of the liner.
154. Submitters also criticised the applicant for failing to undertake sufficient on-site geotechnical investigation to support its design and assessment of effects.
155. Mr Coote described the rock underlying the site as:

"The Pakiri Formation ("Pakiri Fm") bedrock underlying the proposed Valley 1 landfill site and adjoining valleys comprises interbedded sandstone, siltstone and mudstone cut by geological faults, rock joints and bedding plane structural defects. The sandstone unit can be many metres thick with major persistent joint sets defining large blocks and high rock outcrop faces."³⁶

156. In Mr Coote's assessment the underlying rock is not limestone and he considered the apparent 'fault lines' to be expressions of major persistent and subvertical rock joint defects which are typical of the blocky sandstone unit of the Pakiri Formation. Mr Coote also stated:

³⁶Rebuttal Statement of Tim Coote [2.3]

“The features described by Mr Lomas do not appear to be geological fault lines. In addition, there are no “active” geological faults in close proximity to the proposed landfill and the proposed landfill is located within an area of comparatively low seismic risk. The nearest active (earthquake) geological faults to the site are the Kerepehi Fault Zone located 70 km to the south east, and the Wairoa North fault zone located 80 km to the south of the proposed landfill site.”³⁷

157. He also confirmed that a probabilistic seismic hazard assessment was carried out for the proposed landfill site that confirmed the low seismic hazard and risk for the site.
158. While a detailed site investigation in support of detailed design is yet to be completed, Mr Coote confirmed that a geotechnical site investigation has been undertaken, including visual observations and bore holes. He acknowledged that access and visual observation in Valley 1 is presently limited by topography and forest cover, during the site visits neither he or staff working under his direction had observed any evidence of ground collapse or sinkhole features in Valley 1, Valley 2 or the southern valley areas of the Waste Management land holdings. Nor were sinkholes identified in the Western Block which is not under forest cover. In Mr Coote’s assessment, the tomos that have been commented on are likely to be tunnel gully erosion features. Many of those highlighted by submitters are in lower lying areas that have a different geology than Valley 1.
159. The applicant’s experts were confident that proven construction techniques will be able to address the geotechnical constraints of the site and permanently avoid instability effects. Despite Mr Lomas’ submission that indicated he had traversed Valley 1, we did not receive any expert evidence to refute the applicant’s assessment. Accordingly, we favour the applicant’s evidence and find that the ARL could be constructed, operated and managed after closure such that any significant risk of geotechnical instability and corresponding downstream effects are avoided.

15.7 LINER DESIGN AND LEACHATE CONTAINMENT

160. Mr Bryce described the liner design and components. His evidence was complemented by that of Ms Eldridge and Professor Kavazanjian. In summary, we understand that the liner will be a multi-layered system comprised compacted, low permeability soil, a 1.5mm HDPE geomembrane, a cushion geotextile and topped with a leachate drainage layer. Mr Bryce noted that contingency is also provided for by an additional layer of geosynthetic clay liner below the HDPE, where the natural soils materials cannot achieve the necessary permeability standard. He noted that this addition layer may be required at stages of the ARL development, depending on specific soil conditions. The surface of the liner will have a minimum 2% gradient to ensure that leachate flows to the collection points.
161. The liner design is based on industry best practice and has been adopted at various locations including Redvale, Kate Valley, and in other countries. Its design, construction and performance is well understood. Its purpose is to fully contain

³⁷ Ibid [2.5]

leachate within the landfill such that it can be extracted and treated under full control of the landfill operator.

162. The liner will be constructed in stages. Mr Horide explained that the initial layers of waste that are placed onto a new section of liner are carefully selected to avoid any materials that could risk compromising the integrity of the liner system. As the depth of waste increases, that risk is eliminated, and filling continues will all materials that are received within the landfill acceptance criteria.
163. Ms Eldridge explained circumstances where the liner could be compromised, being:
- a. Inappropriate fill placed directly onto the liner;
 - b. Rapid fill placement onto the liner, including waste being dragged against the liner;
 - c. Sharp gradient transitions below or small ridges remaining below the liner; and
 - d. Folds or small wrinkles in the geomembrane.
164. Ms Eldridge explained the careful supervision of the liner construction process and sealing of seams that is undertaken to avoid leakage through incorrect construction or damage. She also provided examples she has been involved in where the liner integrity had been compromised, how that had been identified through groundwater monitoring, and how they had been repaired.
165. Professor Kavazanjian undertook a peer review of the liner design and concluded that it is “state-of-the-art” and would provide a “high level of environmental protection”³⁸. He also concurred that the HDPE was the appropriate product for the geomembrane, “due to its high degree of resistance to chemical attack and its proven performance” and that it provides an appropriate balance between thickness (eg, puncture resistance) and ductility (e.g, ease in deployment and seaming), minimizing the potential for construction-induced defects in the liner”.³⁹
166. In response to questions, Ms Eldridge confirmed that while the liner system was based on recognised best engineering practice, it was not subject to a specific engineering standard or certification. Consequently, she emphasised the importance of consent conditions in setting the system and performance standards to be met at the site.
167. While understandably dubious of the durability and long-term integrity of the liner system, the lay submitters did not provide any evidence to refute the technical evidence before us.
168. While we recognise people’s concerns regarding perceived risks in the proposed containment of leachate within the liner system, we accept the applicant’s evidence. We find that the liner system does represent industry best-practice and if constructed as proposed, will ensure that the risk of leachate discharges through the liner to be very low. Moreover, in conjunction with the other evidence we have heard on the volume, rate and direction of migration of leachate should there be a failure, we find

³⁸ EIC of Professor Kavazanjian [1.4.]

³⁹ Ibid [3.2]

that the risk of such an event on human health and ecology to be low. We are also satisfied that the proposed monitoring systems would identify leachate migration from the site should it occur, and that proven techniques are available to repair the liner as necessary.

169. The applicant has provided a suite of conditions that specify the proposed liner design, the supervision and quality assurance processes during construction, and the leachate drainage system. The conditions also specify monitoring that would occur in response to an earthquake of specified strength, regardless of any immediate evidence of damage of the site.
170. Overall, we are satisfied that the liner design and leachate management system would essentially avoid the discharge of leachate and any low probability failure of the liner would be remedied within an appropriate timeframe. Later we discuss the potential effects of leachate if discharges did occur.

15.8 HYDROGEOLOGY

171. Mr Pemberton described the groundwater environment of the site, based on a desktop study and data collected for 15 boreholes. The system comprises a shallow aquifer within the surficial and residual soils, and a deeper regional aquifer within the underlying Pakiri Formation rock. Groundwater flow within the Pakiri Formation preferentially flow laterally within fractures in the direction of the valley, with very slow downward vertical migration to the underlying groundwater. Mr Pemberton estimated that it could take 100 years or more for a particle of groundwater to reach the regional groundwater given preferential lateral flow.
172. Submitters expressed concern about the likelihood of groundwater contamination, and the extent and effect of contamination on groundwater and surface water use.
173. As explained by Mr Pemberton, Stream 1 will be the primary receiving environment for groundwater from below the ARL. Post construction downward migration to the regional aquifer will be even slower than the present situation given the installation of sub-liner drainage to divert shallow groundwater.
174. Four bores downgradient of the toe of the landfill will be monitored on a quarterly basis and with a broader suite of parameters on an annual basis. In response to recommendations by Mr Perwick and Ms Webster, continuous monitoring of conductivity within the sub-liner drainage will also be undertaken. In further response to Mr Perwick, pre-construction baseflow monitoring of the downstream and adjacent streams would be undertaken, and sub-liner drainage would be maintained and operated permanently throughout the life of the landfill and the approved aftercare period.
175. Mr Baily explained the contaminant fate and transport modelling undertaken by the applicant to determine potential effects of contaminants should they be transported from the site via groundwater. He concluded that even when assuming 1000 times higher rate of leakage than actually anticipated to occur in a leak, the predicted concentrations of contaminants at receptors (stream confluence, the local farm bore, Te Awa o Hoteo and Waitaraire Stream) remained below the most stringent of the NZ

Drinking water Standards, and livestock drinking, recreational guideline and ecological protection values. For the modelling of more likely volumes (albeit with a low probability of occurring) the predicted values beyond the site were below detection limits.

176. Drawing on these conclusions and taking account of the groundwater environment and flow characteristics, Mr Pemberton concluded that the operation of the ARL would not adversely affect the groundwater quality available from the regional aquifer for future potable water supply. He also noted that Watercare did not oppose the proposal, and the Watercare would be required to ensure the appropriate water quality standards were met through treatment.
177. With respect to the Organic Herbs and Seedlings business operated by Mr Purvis, Mr Pemberton concluded that the shallow and regional groundwater flow direction away from Mr Purvis' property and the ARL is unlikely to impact on the quality or quantity of water taken from his bore.
178. He also explained how groundwater from the landfill valley could not impact on the quality of water taken from the bore at Haranui Marae i.e. the two groundwater systems are not connected.
179. The proposed ARL groundwater take of 20,000m³/yr for potable supply would be <1% of the groundwater available in the Hoteo groundwater catchment. It was predicted that this take would have no measurable effect on the availability of groundwater for other users and be undetectable beyond Waste Management land.
180. In conjunction with other evidence, Mr Pemberton concluded that the ARL would not result in an adverse effect on groundwater availability or quality.
181. He also considered the likely volume of water that may be necessary for compensation flows to maintain baseflow would be in the order of 0.4L/s which could be easily obtain through rainwater harvesting and / or groundwater take. Mr Horide provided additional evidence on the range of sources available for that purpose.
182. The monitoring and management of groundwater would be undertaken in accordance with the Groundwater Monitoring and Contingency Plan, to be updated to be consistent with the final set of conditions.
183. While Mr Perwick, on behalf of Council, did not anticipate offsite groundwater quality effects, he considered it important that the management of the site adopt a more rigorous monitoring regime than had been proposed. He disputed the predicted groundwater migration rates, stating that quarterly monitoring of sub-liner drainage may not provide sufficient timeliness in identifying leachate discharge and migration. He preferred continuous conductivity monitoring of bores to provide an earlier warning of potential effects.
184. Mr Perwick considered that if water take from Mr Purvis' bore was increased to say 200m³/d, there could be a draw of regional groundwater towards his bore, which would not occur under his current permitted activity rate of extraction. At that rate a potential contaminant plume would continue to move towards the site even if the source of any

contamination was stopped. He noted that as an organic producer, the importation of supplementary water was not necessarily a simple response for that site.

185. In his view this would be the appropriate type of modelling to determine the likely range of effects of the proposal under any future consent applications. Mr Pemberton did not support that requirement on the basis that the assessment undertaken for the proposal, which did not include three-dimensional modelling, had been satisfactory to determine that groundwater effects would be avoided or negligible. The assessment undertaken indicated that any measurable effects would be limited to Waste Management land and that three-dimensional modelling would not provide additional detection of effects beyond that boundary.
186. Overall, Mr Perwick considered that the proposal was acceptable from the perspective of groundwater recharge to the tributaries and Hōteu Awa. He was also satisfied that there would be a sufficient combination of options to compensate surface water flows, and that baseline monitoring would enhance the understanding of the baseflow regime prior to works commencing.
187. We are satisfied that the applicant has undertaken an appropriate level of assessment and find that any adverse groundwater effect that may arise will be negligible.
188. As described by Mr Baily, conservative modelling assumptions indicate that in the unlikely event of leakage occurring, potential leachate migration would not result in contaminant levels that exceed relevant standards and are likely to be below detection levels. Effects on existing groundwater takes will be avoided and we note in relation to Organic Herbs and Seedlings, that any future take for which consent may be sought at that site cannot be included as part of the existing environment that we must consider.
189. We note that many of the recommendations provided by Mr Perwick and Ms Webster have been accommodated by the applicant and are reflected in conditions. With respect to Mr Perwick's recommended requirement for three-dimensional modelling through PC 42, we are satisfied, as is he, that the assessment undertaken to date has been satisfactory to determine the effects of the proposal for which resource consent is sought.
190. We find that there will be sufficient water sources available in the event that compensation flows are required to maintain baseflow downstream of the site, given that the predicted volumes that could be required are low. As a result, potential adverse effects on baseline flows can be avoided.
191. We find that the proposal would not prevent the regional groundwater aquifer being utilised as a municipal or site-specific potable water source. Nor will other water uses be compromised.
192. Overall, we find that possible adverse effects on groundwater that may arise from the construction and operation of the landfill will be insignificant.

15.9 STORMWATER MANAGEMENT

15.9.1 Rainfall, Flooding and Stream Erosion

193. The design and stormwater management design and assessment of effects was provided by Mr Van de Munckhof.
194. Many submitters stated that that the proposed site experiences the highest rainfall in the Auckland Region and that the applicant had not accounted for that in its design and assessment of effects. Mr Van de Munckhof did not refute the rainfall volumes and intensities suggested by submitters and reiterated in his rebuttal statement how the design of the stormwater management system has taken account of peak rainfall intensities and volumes consistent with those. In particular, he had taken account of the same HIRDS V4⁴⁰ 2 year ARI, 10 year ARI and 100 year ARI rainfall depths quoted by Fight the Tip, with the addition of an industry standard allowance for climate change. These values were used to design the sediment ponds and to determine the hydrological mitigation required⁴¹. In the flooding assessment and attenuation design, he adopted the values derived from TP108⁴² which are higher and thus more conservative than the HIRDS values. Mr Van de Munckhof also confirmed that the stormwater pond design capacities could accommodate flows if using the higher TP108 values for the design of the sediment ponds and the hydrological mitigation. The difference in the latter would simply require a change to the outlet design flow rate although he somewhat cautioned against that as doing so may over-estimate predevelopment flow rates that would somewhat negate the benefit of the hydrological mitigation.
195. Mr Van de Munckhof identified that streams into which stormwater from the ARL would discharge exhibit a range of substrates including bedrock, boulders and sandy and rocky rifles, sediment over bedrock; and stream banks comprising silty sands and an accumulation of silts. He acknowledged that stormwater discharges will have the potential to change stream hydrology and result in accelerated erosion and consequential sedimentation if not correctly managed and confirmed that the design has adopted the GD01 requirement to hold and release the 95th percentile volume⁴³ via controlled outlet to mimic the existing stream hydrology. On that basis Mr Van de Munckhof concluded that the discharges from sediment and stormwater ponds would not result in accelerated stream bed and stream bank erosion.
196. Submitters provided personal experience of local flooding within the vicinity of Wayby Valley Road and Spindler Road, with some suggesting that the site experiences frequent flooding. It was clear from the evidence presented by Mr Van de Munckhof and in observation during our site visits that Valley 1 is not subject to significant flooding, notwithstanding that it is a significant and steep catchment. However, the

⁴⁰ NIWA High Intensity Rainfall Design System Version 4 (updated 2018)

⁴¹ Based on Auckland Council Guideline Document GD01 to avoid changes in stream hydrology and morphology.

⁴² Auckland Council (1999) Technical Publication 108, Guidelines for stormwater runoff modelling in the Auckland Region (updated 2013)

⁴³ The 95th percentile is the rainfall volume that 95% of rainfall events will be no more than. This will be achieved for sediment retention ponds and stormwater ponds.

lower reaches of the Valley 1 / Valley 2 stream system as it passes Spindler Road does flood, including during coincidences with widespread flooding that occurs across the Hoteo Awa flood plain in the vicinity of Wayby Valley Road. The low-lying areas of the Waste Management land holding around the airfield and wetlands are within that flood plain.

197. Based on the proposed design, which meets Council design standards, Mr Van de Munckhof concluded that the project will not worsen flooding effects downstream of the site. Submitters did not provide contrary expert evidence.
198. Ms Hanna, Council Senior Stormwater, Wastewater, and Industrial and Trade Activities Specialist accepted the proposed design and assessment, confirming it met the relevant Council design standards with respect to the mitigation of peak stormwater flows and volumes and concluding that resulting effects would be acceptable. Ms Hanna recommended the modification of some conditions and the inclusion of a specific condition that detailed the design performance standard of each stormwater treatment device. Mr Van de Munckhof did not support that condition as, in his opinion, it failed to acknowledge the bespoke design elements proposed, including the oversized ponds and the inter-related function of the ponds and the treatment wetland.
199. Mr Cavanagh, Development Engineer for Council, confirmed his satisfaction with the project design and rainfall assumptions. He expressed confidence that the assumed engineering performance of the landfill structures will be able to be confirmed through detailed design and review.
200. The submitters provided extensive presentations regarding what they perceive the be likely effects of stormwater discharges from the operation of the ARL. In general, the applicant has identified the same effects as likely if not appropriately avoided or mitigated through design and site management. The applicant's evidence is that the stormwater management systems of the site have taken account of the likely real-world rainfall characteristics of the site, will be robust and will avoid worsening adverse flooding and stream erosion effects. We accept the applicant's evidence and find that the proposed design has correctly taken account of potential stormwater effects at this site. If constructed as proposed, we are satisfied that those potential effects will be minimised to an acceptable level.

15.9.2 Temperature effects

201. Ms McArthur stated⁴⁴ that the Baseline Monitoring Report and the Ecological Report do not present summer data for the Wayby Valley streams. She quoted those documents as reporting water temperatures in the range of 10 to 12.5°C. Ms McArthur described the potential effects of elevated stream temperature on various species and provided indicative preferred temperatures for bully and īnanga. Her concern was that the maximum instream temperatures as stated by the applicant, of 20 to 25° C, would exceed the preferred range of some species and have detrimental effects on their

⁴⁴ EIC of Kathryn Jane McArthur [35]

viability within that stream. The range of temperature variability was also noted as potentially impacting biota. In her summary notes Ms McArthur stated⁴⁵:

I maintain my view that thermal effects on aquatic life are not well-quantified or addressed. High temperature discharges may occur from the treatment wetland and the access road, particularly runoff during rainfall events following periods of high temperature from impervious surfaces, which may overwhelm proposed treatment systems such as grass swales.

Mr Van de Munckhof identified in evidence to the panel that the thermal effects are addressed in the section 92 response. I have re-read that document and I can find no supporting citations relevant to the thresholds of 22, 24 and 26 degrees within that document. These thresholds are not consistent with national guidance on temperature effect thresholds (as provided by Davies-Colley et al. 2013). I note that the thermal effects assessment in the section 92 response does not consider change in temperature effects. Up to five degree increases may occur and these effects are considered within my evidence in chief.

I also note that the effects of an increase in impervious cover across the site generally are not addressed specifically in the effects assessment.

202. Dr Clearwater considered that the loss of riparian cover combined with runoff from road surfaces would “profoundly alter the habitat characteristics of Stream S, with increased water temperatures and light levels to result in changes such as an increase in periphyton growth”⁴⁶. Stream S is mapped as a Natural Stream Management Area adjacent to the lower 2/3rds of the access road.
203. Ms Quinn responded to these issues in her rebuttal statement of 21 December 2020, providing the references upon which she had relied in her assessment of effects and subsequent responses during the assessment of the proposal by Council. She reported summer temperatures downstream of Valley 1 and Valley 2 of 15 to 20°C and peaks of greater than 20°C. Consequently, she was confident that the prediction of post-construction temperatures of less than 25°C would be acceptable. Moreover, when high flows discharged from the stormwater devices, temperature would be less likely to be an effect of concern as the flows within the ponds would have a lower temperature corresponding with high rainfall. Ms Quinn also explained that the access road will be relatively narrow and shaded, and that stormwater runoff will discharge to filter strips which will then discharge across the land surface, with the road to be separated from the stream by 15m to 65m of forest. Likewise, the Bin Exchange Area will discharge to rain gardens, such that stormwater will discharge via media to the drainage under the devices. With respect to the Eastern Block, Ms Quinn stated that the receiving streams are exposed to direct sunlight. Monitoring at Redvale indicated that pond discharges would not exceed 25°C.
204. Ms Hanna addressed potential temperature effects in her technical review and specifically addressed Ms McArthur’s concerns in response to us on behalf of Council.

⁴⁵ Memorandum. Re: Speaking notes summary – Waste Management NZ Ltd hearing presentation, 27 November 2020

⁴⁶ EIC of Susan Jane Clearwater [68].

She noted that anticipated temperature downstream of the mixing zone, and in Valley 1 and the Upper Waiteraire Stream, had been calculated as generally not exceeding 20°C and that conditions have been proposed that require monitoring of stream temperatures. Ms Hanna continued to consider the proposal to be consistent with the relevant technical guidelines and that the anticipated effects associated with temperature would be acceptable. On the basis of the information she had received, she did not believe there would be significant adverse thermal effects on the environment from the proposed stormwater discharges.

205. We accept the applicant's assessment and conclusions regarding potential effects on downstream stream water temperatures and find that such effects will be appropriately minimised. We cannot conclude that the discharge of runoff from the access road via filter strips and existing vegetation slopes, and taking account of roadside shading, would result in a significant increase in water temperature in Stream S. Likewise, likely temperature effects downstream of the landfill have been appropriately considered and assessed. We find those effects will be acceptable.

15.9.3 Dam Safety

206. The dams associated with Ponds 2, 3 and 4 would require building consent and the spillways have been designed to accommodate runoff from the theoretical 1000 year rainfall event. Mr Bouma provided a technical review of those proposed structures and considered that they would be able to meet all industry best practice and dam safety requirements. We did not receive any expert evidence to refute that conclusion and submissions were generally focused on overall site stability rather than specifically the stormwater dams.
207. Mr Tate, on behalf of Council, confirmed his satisfaction with the dam design and safety factors, the construction quality procedures and the Dam Safety Plan. He confirmed that Ponds 2, 3 and 4 would require building consent that would confirm all the necessary design and safety aspects. In terms of the spillway capacity, Mr Tate confirmed that the ponds were classified as having a low Potential Impact and was satisfied that downstream risk had been appropriately considered.
208. We find that the proposed stormwater dams can be constructed and maintained to meet all industry best practice and dam safety requirements.

15.10 SEDIMENT

209. The potential adverse effects of accelerated sedimentation in the Kaipara Moana is a matter of specific interest and concern to submitters and the applicant, as are potential transient and / or permanent effects of sedimentation on the Hōteio Awa. The Hōteio River is recognised as a Natural Stream Management Area ("**NSMA**") and SEA on the boundary of the Waste Management landholdings and an Outstanding Natural Feature ("**ONF**") downstream of SH1. It is also identified as a priority catchment by the Auckland Council Sustainable Catchments Programme.
210. The marine ecological values of the Kaipara Moana were described by Mr Cameron. He noted that a marine ecological effects assessment report had not been prepared for the project because an ecological effects assessment is usually only applied to the

direct area of influence of a project, and the project site is 35 km channel length upstream of the mouth of Te Awa o Hōteō. Given the concerns raised by submitters regarding potential effects on the Kaipara Moana, he presented in his evidence a summary of marine ecological values in the vicinity of the mouth of Te Awa o Hōteō, and then relied on the reports of other experts to reach conclusions on the potential magnitude and overall level of effects of the project on marine ecology⁴⁷. In summary, Mr Cameron noted that it is clear that the mouth of the river and potential Zone of Influence of the Project in the Kaipara Moana supports Very High ecological values for a number of species and habitat, including for several threatened species. He noted however, that the area in the vicinity of the mouth of the Hōteō Awa is somewhat degraded, with turbidity and sedimentation likely the main drivers and nutrients to a lesser extent. Mr Cameron therefore concluded that the ecological value of habitats and species in the potential zone of Influence in the Kaipara Moana was Moderate to Very High.

211. While Mr Cameron acknowledged that he had not specifically taken account of cultural values, he did consider his conclusions to be relevant to cultural values to the extent that those incorporate the ecological values he had assessed.
212. Submitter's explained clear aspirations that new activities within the Kaipara catchment do not worsen sedimentation and ideally contribute to a reduction in adverse sediment related effects. The applicant's stated intentions were consistent with those aspirations. Representatives of a number of marae located at the mouth of the Hōteō River and around the Kaipara Moana stressed the importance of the mahinga kai and kaimoana obtained from these areas and lamented the adverse changes that had occurred to these areas, mainly due to land clearance in the catchments of the Kaipara Moana and the influx of increased levels of sediment. They referred to the efforts now being made in terms of the Integrated Kaipara Harbour Management Plan steering committee to address the state of the Harbour.
213. It was uncontested that the Hōteō Awa and Kaipara Moana both exhibit degradation from sediment that has resulted from deforestation and various land use practices. Many submitters expressed concern that the ARL would result in an increase in sediment-related adverse effects on the Kaipara. Various Mana Whenua expressed concern about the potential impact that sediment from the site would have on food gathering and contact recreation activities. The general tenor of submissions was that there is ongoing degradation of the harbour, a position which is supported by research commissioned by Auckland Council and Northland Regional Council and undertaken by Malcolm Green of NIWA and by submitters. That research estimated that approximately 700,000 tonnes of sediment enter the Kaipara Moana annually, mostly from farm land and stream bank erosion. The research supported extensive riparian and other land restoration for which Government funding has now been allocated. Mr Cameron, on behalf of the applicant, also referenced that study and its findings were not contested.
214. In relation to the Hōteō Awa, Mr Dill, who's farm extends approximately 3.5km along the river within the lower catchment, considered that the quality of the river has

⁴⁷ EIC of Marcus Cameron [1.2]

improved in his lifetime. In his opinion this has been a response to improving land use practices such as better grazing management by farmers throughout the catchment. Mr Dill reported that he has observed a return of native fish to the Awa.

215. For the applicant, Mr Van de Munckhof provided the key evidence on the measures proposed to minimise sediment-related effects of the land fill. His evidence was complemented by ecological assessments provided by Ms Quinn and Mr Cameron.
216. Mr Van de Munckhof provided estimated sediment yields (loads) for the construction and operational phases on the landfill, and comparison with existing catchment yields for the Puhoi to Warkworth (“**P2WW**”) motorway that is under construction, and the estimated yields for the proposed Warkworth to Wellsford (“**WW2W**”) section of the motorway extension. Baseline turbidity and estimated sediment loads were also reported from four monitoring points within the site⁴⁸. That information was collectively used to inform the design of the erosion and sediment control and stormwater management systems, performance standards, monitoring triggers and effects assessment.
217. Mr Van de Munckhof described the proposed erosion and sediment control measures that would be implemented during the construction and operational phases, including modifications and additional measures that had been included in response to expert witness evidence and Commissioner’s questions.
218. Mr Van de Munckhof concluded that when taking account of the estimated sediment yields for existing land uses within the site, the four-year construction phase would result in less than 1% increase in overall sediment load to the receiving environment. He also provided comparison of the cumulative earthworks areas and total sediment loads with the P2WW and WW2W projects, and with pre and during forest harvesting of similar sites. His analysis identified that the total earthworks area and corresponding sediment loads of the ARL would be significantly lower than the two roading projects.
219. During the operational phase, sediment retention ponds for the Clay Borrow Pit and Stockpile 1 will continue to function, while all other stormwater will be treated via the stormwater pond and wetland systems, the filter strips for the road, and the rain gardens for the Bin Exchange Area. The sediment retention ponds will be sized for their contributing catchments and contributing catchments will be managed through temporary stabilisation to minimise the area exposed to erosion at any one time. For seasonal operations earthworks, the combined area exposed for the Clay Borrow Pit and Stockpile 1 will be 5ha, which will ensure that the sediment retention ponds are significantly over-sized. The seasonal earthworks restrictions will also apply, further limiting the open areas between 30 April and 1 October of any year.
220. The applicant has stated that the daily waste acceptance area of the landfill will be 80m x 80m. There will be an area of exposed soil adjacent to that area, being the soil available for daily cover, and immediately adjacent fringes of disturbance. There would also be periods of larger areas of disturbance within the landfill footprint when

⁴⁸ One at the foot of Valley 2; one downstream of the Valley 1 – Valley 2 confluence; and two in the tributary below the access road.

new landfill stages are developed. The applicant has not offered an overall, site-wide open area limit at one time for the operational phase of the landfill (incorporating the landfill footprint, Clay Borrow Pit, Stockpile 1 and any other disturbance).

221. The applicant provided a draft Adaptive Management Plan (“AMP”) that would be implemented for the duration of the construction phase. The purpose of the AMP is to allow the ESC management of the site to be adjusted so as to ensure that the outcomes assumed in the assessment of sediment-related effects are achieved. It requires automated continuous monitoring of turbidity at the inlet and outlet of SRPs and upstream and downstream sites, event-based monitoring in response to triggers, routine monitoring, and downstream ecological assessments.
222. During the operational phase, the monitoring and management of potential sediment effects will be provided through the Landfill Management Plan and in particular the Stormwater Monitoring and Contingency Plan.
223. Dr Clearwater expressed concern about what she considered to be the likely impacts of sediment from the overall ARL site i.e. during construction and operation. In this regard she referenced Ms McArthur’s assessment that sediment discharges are likely to double the sediment concentrations in streams and will contribute to increased sedimentation in the Hōte o Awa and Kaipara Moana. Dr Clearwater also considered that runoff from the road would alter stream hydrology and made specific reference to the potential effects of stormwater quality on kakahi, which she stated to be highly sensitive to fine sediments in their juvenile stage, as well as being sensitive to the common contaminants copper and ammonia⁴⁹. Dr Clearwater did not support monitoring of kakahi, as the juvenile mussels are difficult to find and may be damaged during sieving.
224. Ms McArthur, as a freshwater ecologist, focussed on potential effects of the proposal on the Hōte o Awa. At paragraph 63 of her evidence in chief, Ms McArthur questioned the appropriateness of comparing ARL sediment loads to existing and proposed land uses as follows:

“I note the Stormwater Report compares project sediment losses with sediment lost from pastoral and exotic forestry land use, and Mr Van de Munckhof’s evidence also compares the estimated losses to Waka Kotahi roading projects in the Hōte o Awa catchment, all of which contribute to current cumulative sediment impacts in Te Awa o Hōte o Awa and Kaipara Moana. However, these comparisons fail to acknowledge that existing background sediment impacts are proposed to be halved across the catchments contributing to Kaipara Moana, including Te Awa o Hōte o Awa, to improve ecosystem health and reduce sedimentation impacts. The background existing sediment loads (from forestry and pastoral land use) used as a comparison in the Applicant’s stormwater report should therefore not be assumed to continue unchecked into the future.”

225. Ms McArthur questioned the appropriateness of including a single baseline value outlier of 53g/m³ in an otherwise consistently low TSS record from the monitoring site and could not identify a correlation of that value with a rainfall event. Mr Van de

⁴⁹ EIC of Susan Clearwater [70] and [75]

Munckhof explained the lack of immediate coincidence as the lag effect of rainfall induced runoff arriving from the larger Waiteraire Stream catchment⁵⁰, as the SW1 monitoring site is at the confluence of that stream with Stream S⁵¹. Mr Van de Munckhof did not support the exclusion of the 53g/m³ outlier, as he considered it to represent a true value and that the final sediment discharge limits and triggers would be established through four years of baseline monitoring.

226. In speaking notes and responses to questions, Ms McArthur maintained her view that:

“...high TSS (total suspended sediment) concentrations can significantly skew average concentrations, even if an erroneous elevated sample is only 1 out of 48 samples (collected over four years as proposed by Mr Van de Munckhof). For this reason, the median value is more appropriate as a statistic to define the baseline TSS condition. I still cannot see any evidence of a rainfall event affecting in the data relating to the elevated 53 g/m³ sample noted in my evidence in chief, despite Mr Van de Munckhof’s evidence that this is the case.”

227. She noted that localised incidents such as stream bank erosion or the like can cause outlier values such as that recorded, and do not indicate the overall TSS level of the stream flow at the time of measurement. Consequently, she was not confident that the proposed triggers and limits for suspended sediment (TSS) are adequate to protect instream ecosystems. She specifically identified a significant difference between the absolute limit of an average of 30 g/m³ of suspended solids in 95% of samples in any consecutive 12 month period, and a proposed 80 g/m³ response trigger of discharge concentration offered by the applicant during the hearing. However, we note that that response trigger had not been offered in the final draft of conditions provided by the applicant in its reply as it is now to be incorporated into the Adaptive Management Plan subject to further baseline monitoring.

228. Ms McArthur also questioned Mr Van de Munckhof’s estimate that the operation of the site will generate less sediment than a bush-clad Auckland stream or that the increase in sediment from the site will be less than 1% above current sediment losses, based on the current vegetation and the “very tidy” state of the farm. She acknowledged “that the generation of sediment from forestry harvest is cyclic in nature and that sediment losses are generally concentrated over an eight to ten year window following harvest, and that the effects are reversible (i.e. ecological values can recover and have at the site).”⁵²

229. Ms McArthur did generally agree with Mr Van de Munckhof’s deposited sediment trigger values for instream monitoring responses but suggested the inclusion of a 10% departure from reference condition should also be incorporated into the trigger to apply in the instance that upstream deposited sediment already exceeds the trigger value.

⁵⁰ Rainfall having occurred in the upper catchment in the preceding 48 hours.

⁵¹ The stream north of the access road and Bin Exchange Area.

⁵² Speaking notes of Kate McArthur.

230. Ms McArthur also identified errors or inconsistencies in the concentration units reported in Mr Van de Munckhof's evidence.
231. The respective statements of evidence of Dr Clearwater and Ms McArthur were supported by submitters.
232. In her initial review and statement, Ms Harte of Council identified inconsistency in the sediment control efficiencies and open area limits assumed by the applicant, and those that would be enforceable through the applicant's proposed methodology and conditions. She also considered that it would be appropriate to undertake baseline and ongoing monitoring of kakahi populations downstream of the site. In her final statement Ms Harte modified her position in part, accepting the applicant's modelled open area limits and commitment to 5ha during operational phase. Having earlier recommended a blanket 6ha limit for each construction she, she modified her position to recommend that the specific open area limits programmed by the applicant for each construction year be imposed. The applicant has originally proposed an 11ha limit for each construction year, which represented the largest works year. Ms Harte reaffirmed her view that all sediment retention ponds and decanting earth bunds should be chemically treated, and accepted that this was not necessary for the stormwater ponds that are to service the landfill during the operation phase. She accepted Dr Clearwater's reservations regarding monitoring of kākahi (that monitoring of kakahi populations is not feasible due to the difficulty in identifying juvenile mussel and as a result, identifying shifts in population) but considered that baseline surveying be undertaken to better understand potential impacts on any identified populations and to avoid direct impacts of specific activities such as the installation of stormwater outlets. Ms Harte supported the requirement for four years of baseline monitoring to confirm / modify sediment limits and triggers.
233. Ms Harte contended that the assumed overall efficiency of 95% sediment removal for sediment control devices may not be achieved for the duration of works, as some areas will be treated by less efficient devices such as silt fences and the maximum efficiencies will be not achieved during heavy rainfall events. However, she acknowledged the comparisons applied against other land uses at a catchment and annual scale. While she considered there to remain some uncertainty regarding the overall efficiency of the sediment management system proposed, she considered that the implementation of the Adaptive Management Plan would cater for that uncertainty, by allowing the actual performance and effects of the works to be monitored and adjusted as may be necessary. As proposed, the Adaptive Management Plan is to include the appropriate response triggers that are derived from the baseline monitoring.
234. Ms Harte recommended the retention of her originally proposed Adaptive Management Plan condition with the inclusion of requirements for the identification and condition of erosion prone stream areas; actual and potential areas of spawning habitat; and baseline instream surveys for kākahi.
235. With respect to potential impacts on the Kaipara, Ms Harte concluded that "I do not believe that based on the information provided to date, that there will be significant adverse ecological effects to the Kaipara Moana resulting from the proposed sediment discharges."

236. Mr Van de Munckhof provided rebuttal to submissions and opposing witnesses that addressed the matters in contention.
237. With the adoption of the proposed erosion and sediment control design and monitoring, Ms Quinn assessed the magnitude of effect from sedimentation during the construction and operational phases as 'low', as would be the risk of construction related changes in stream hydrology. She "conservatively assumed that there could be a minor shift away from baseline conditions during the construction period. That is, while there may be a discernible change, the underlying character of the environment will be similar to predevelopment. This is equivalent to a low magnitude of effect"⁵³. Ms Quinn discussed the function of the Adaptive Management Plan that she had had a role in preparing, and the instream monitoring that would be undertaken through that plan. She described the Adaptive Management Plan as a "backstop to ensure additional measures are put in place if effects beyond those anticipated occur".⁵⁴ She noted that that same approach "has been agreed in previous large infrastructure projects, most recently in the Te Ahu a Turanga Manawatū-Tararua Highway project"⁵⁵ as refined through expert conferencing with Horizons Regional Council and the Department of Conservation. In her rebuttal statement, Ms Quinn responded to various matters as follows:
- a. A requirement for the baseline identification of stream erosion is not directly related to an effect of the proposal as such effects are a typical result of structures or changes in hydrological regime. The stormwater management system is designed to avoid changes to hydrology and any outfalls can be designed and constructed to avoid erosion, and subsequently monitored. The location of outfalls can be specifically addressed through the Site Specific Erosion and Sediment Control Plans.
 - b. All of the immediate downstream stream habitat is potential spawning habitat for various species and further identification of potential spawning habitat as suggested by Ms Harte will not provide any additional information.
 - c. Support for Ms Harte's recommendation to require baseline surveys to identify the presence or absence of kakahi.
238. Mr Cameron outlined that the ARL footprint (60ha) would be 0.15% of the Hoteo Awa catchment and 0.01% of the Kaipara Moana catchment. We note that as proposed, at any one time the maximum earthworks footprint would be 11ha during construction and 5ha plus the working face during the operational phase. Mr Cameron also confirmed that the site is 35km from the coast. Mr Cameron explained the zone of influence, being the area in the vicinity of the mouth of the Hoteo, and its significance as habitat for fish, shellfish, cetaceans and coastal birds. This evidence aligns with descriptions and experience presented by submitters.

⁵³ EIC of Justine Quinn [6.12]

⁵⁴ Ibid at [6.16]

⁵⁵ Supplementary Statement of Justine Quinn [3.9]

239. Subject to the implementation of the proposed erosion and sediment control and stormwater management and monitoring systems, Mr Cameron provided the following conclusions:

“In summary, with the proposed measures in place, the overall magnitude of effect from the construction and operation of the ARL on the marine ecology within the potential ZOI of the Hōteō Estuary and Kaipara Moana will be Negligible, with a possible improvement over time from reduced operational sediment loads compared to the current baseline. Therefore, I consider that the overall level of effect when accounting for Moderate to Very High marine ecological values will be Very Low to Low. As overall marine ecological effects are not considered to be Moderate or greater no additional mitigation measures are deemed necessary to address marine ecological effects.

However, the offset and compensation package as described in the evidence of Ms Quinn and Mr MacGibbon includes offsite planting and stream management. If this package is implemented as proposed, there may be long term benefits to the ecological values in the potential ZOI of the Hōteō Estuary and Harbour through reduced sediment and nutrient loads from the associated sub-catchments over time.”⁵⁶

240. The Kaipara Moana is clearly under significant stress from sediment inputs that have resulted from various land use practices over a long period. This was uncontested.
241. The Hōteō Awa is a significant catchment of the Kaipara, indeed the largest by flow and catchment area in the Auckland region, being 405km² (8% of the Auckland region) at its confluence with the Kaipara. The awa has also been impacted by land use practices, including accelerated erosion. Mr Dill considered that the water quality of the awa had improved in his lifetime. Other submitters expressed concern about the state of the awa and activities that may continue to adversely affect its water quality, habitats and mauri. Regardless of whether the health of the Hōteō is continuing to decline, is steady or is slowly improving, it was uncontested that land uses must be managed to avoid or appropriately minimise sediment discharges such that the health of the awa can improve.
242. Based on the uncontested evidence with regard to the existing state of the Kaipara, it is a reasonable and understandable concern that earthworks within the Hōteō catchment could adversely affect not only the awa but also the moana. The questions for us to resolve is what the likely volumes of sediment from the site will be and whether those will be of a magnitude that will contribute to a material degradation of those receiving environments.
243. At this juncture we must address what an acceptable outcome would be in terms of sediment effects at a catchment scale. The applicant has undertaken an assessment based on predictions of sediment discharges from the site, and comparison against existing land uses, and current and proposed significant earthworks projects in the Warkworth and Wellsford areas. The outcome of that assessment is that the proposal will result in <1% increase in sediment discharge. While there is a recognised

⁵⁶ EIC of Marcus Cameron [6.56] and [6.57]

catchment response programme to the sediment stress of the harbour, there is no catchment sediment budget and no specific policy directive for new activities to reduce overall sediment inputs to the Hōteu or Kaipara. There is a directive in the NPS:FM to achieve the national target for water quality set in Appendix 3 of the document. That target seeks to increase proportions of specified rivers and lakes that are suitable for primary contact, based on *E. coli* and *cyanobacteria* (planktonic) human contact attributes which are not applicable to the consideration of earthworks.

244. Consequently, we find that the applicant's framework of acceptable sediment effects is appropriate and consistent with the approach taken in other earthworks consent applications throughout the catchment and region. We also note that the applicant has considered the potential sediment effects at a sub-catchment and catchment scale. Ms McArthur noted an aspiration to halve sediment inputs into the Kaipara. We do not consider the proposal to be inconsistent with the aspiration at a catchment scale, in light of the various catchment rehabilitation projects currently planned, and the riparian restoration proposed in conjunction with the ARL.
245. While we acknowledge the points raised by submitter's expert witnesses, and in particular Ms McArthur's experience and understanding of sediment related effects, we are satisfied that the applicant has provided a sufficiently robust assessment. The management of sediment during the construction and operation phases exceeds that typically proposed for earthworks projects. The sediment retention ponds will be larger than required by the GD05 best practice guideline, and the management and response to unanticipated effects will be addressed through the implementation of the Adaptive Management Plan. That plan will be informed by baseline monitoring and we accept Ms Harte's point that the Adaptive Management Plan addresses the residual uncertainty that may exist in terms of sediment effects, notwithstanding that Mr Van de Munckhof and Ms Quinn consider that the assessment of likely sediment effects is realistic. All other erosion and sediment control measures will meet or exceed GD05.
246. Discharges from the landfill ponds during the operational phase will be subject to the total suspended solids limit. We are satisfied that the 30g/m³ discharge limit for the ponds has been based on realistic data and will be further refined through the completion of the four-year baseline monitoring. It was common ground between the experts that the appropriateness of the discharge limit was dependent on the proposed baseline monitoring, which started at four sites in April 2018. Accordingly, we find that it would be appropriate and necessary to require through a condition that that baseline monitoring is completed before construction commences to avoid truncation of the data set or distortion of average water quality values by construction related discharges.
247. We were informed by submitters that the Hōteu Awa is used for a range of contact activities including swimming, particularly in the downstream reaches of the awa. Mr Cameron also identified the significance of the areas around the river mouth as ecological habitat. However, Mr Cameron expressed confidence that the ARL would have no more than a negligible adverse effect on the Kaipara and may have a beneficial effect if the proposed riparian restoration is undertaken. We did not receive any opposing expert evidence on effects on the Kaipara, notwithstanding Ms

McArthur's comments that were aligned with her assessment of freshwater effects. On the basis of the applicant's assessment of sediment effects, subject to our discussion below, we find that the proposal will not adversely impact on the Kaipara in any more than a negligible extent. On that basis, we do not find any sediment-related reason why the proposal would alter the behaviour or threaten the health of people or biota within the Kaipara or the lower reaches of the Hōteo.

248. Mr Van de Munckhof accepted Ms Harte's recommendation for year-specific open area limits during construction and provided a 5ha combined open area limit for the Clay Borrow Pit and Stockpile 1 during the operational phase. Those limits have been included in the proposed consent conditions. However, as proposed, there is no explicit open area limit to the earthworks area within the landfill footprint during operational stages, although the working face of the landfill is proposed to be limited to 80m x 80m. Nor is there an open area limit for the staged construction of new landfill cells. Such limits are necessary to ensure that the assumptions inherent in Mr Van de Munckhof's assessment are valid.
249. Accordingly, consent conditions would be required to impose such limits. We find that an open area limit for landfill working face of 7000m² will accommodate the 80m x 80m area. With respect to the staged construction of landfill cells, we consider that the open area limit in each instance should be determined through a Site Specific Erosion and Sediment Control Plan that should be submitted to Council for certification prior to each stage commencing. A requirement of each plan will be to describe and specify how the open area will be minimised and progressively stabilised.
250. Overall, we find that the proposal will minimise sediment discharges to the Hōteo Awa and Kaipara Moana to an acceptable level through the adoption of best management practices in combination with riparian restoration. Those discharges will not compromise existing aspirations to improve the overall water quality and ecological health of those water bodies.

15.11 AQUATIC ECOLOGY

15.11.1 Loss of freshwater aquatic habitat and biota

251. The proposed project would result in the loss of 14 km of permanent and intermittent streams within the project footprint, primarily within the landfill area (Valley 1). Some parties, in particular DoC⁵⁷, considered that ephemeral streams should be included in this estimate of stream loss, and there was some debate about the validity of including ephemeral streams in this assessment of stream loss as they are not subject to the same provisions in the AUP as the other two groups of streams. The inclusion of ephemeral streams was considered to result in an overestimate of the length of streams that would be lost by the proposed project⁵⁸. This loss of streams, particularly in Valley 1, will result in the loss of aquatic fauna within these habitats, primarily macroinvertebrates and aquatic flora, while the loss of some of the vertebrate species (e.g. fishes and frogs) will be minimised through the capture and relocation of resident

⁵⁷ EIC of Dr Clearwater (56)

⁵⁸ Rebuttal evidence of Ms Quinn (2.6)

species, although the success of such relocation, particularly in relation to Hochstetter's frog, was the centre of some debate.⁵⁹

252. On the matter of ephemeral streams, we acknowledge that they comprise an important component of the natural drainage network and freshwater system. However, in addition to the points raised by Ms Quinn regarding the risk of overestimating the extent of stream loss, reclaiming ephemeral streams is provided for as a permitted activity in the AUP and the reclamation of those streams is not a matter for which consent is sought. On that basis we accept the applicant's approach. While a number of submitters considered that the applicant's ecological assessments do not follow best practice, particularly in regard to the timing and methods used for fish survey⁶⁰ we are of the opinion that the assessment undertaken by the applicant is adequate to understand the effects of the proposed activity. We find that the applicant has transparently presented the very high ecological values of the watercourses onsite and impacted by the proposed project, including 'very good' Fish IBI (index of biological integrity) scores for most streams and the presence of 'at risk' freshwater species. We also agree with Mr Lowe's assessment that there are practical limitations to monitoring the success of fish relocations where many species are migratory and mobile; also, some monitoring techniques, such as pit tags, may inherently cause acute or chronic stress and the monitoring of the success of fish salvage and relocation has not been a requirement of consent conditions imposed by Auckland Council to date because of the practical difficulties in undertaking such an exercise.⁶¹

253. The experts agreed that the project will lead to the potential loss of Hochstetter's frogs (At Risk - Declining) and their habitats within the project footprint. The irreplaceability of the frogs, and the unacceptability of their loss, was highlighted by DOC's frog expert.⁶² In contrast, the applicant's frog expert (Dr Matt Baber) asserted that pest control alone would provide sufficient benefits for frogs in the wider area to compensate for the loss of the frogs and their habitats. He argued that any positive outcomes arising from the proposed frog (and habitat) translocation (e.g., translocation success, useful research findings) would contribute to applied conservation management beyond this Project⁶³. Dr Germano expressed strong doubts (backed up by relevant examples) as to whether the proposed pest control would be able to achieve the benefits for frogs required to achieve an adequate level of compensation. Dr Germano also pointed out a potential flaw in relying on rat control to increase frog populations in that predation of frogs by mice may increase when rat numbers are reduced.⁶⁴

254. There is clearly a degree of uncertainty around whether the proposed pest control will work, as well as uncertainty associated with translocating frogs and their habitats. In the Applicant's opinion this potential loss will be compensated for by implementing an

⁵⁹ EIC of Dr Germano (82)

⁶⁰ EIC of Dr Clearwater (40-44)

⁶¹ Technical Memo – Mr Lowe (November 2020) (67)

⁶² EIC of Dr Germano (73)

⁶³ EIC of Dr Baber (9.33)

⁶⁴ EIC of Dr Germano (101)

appropriate robust frog and pest control monitoring programme (e.g., by creating additional frog habitat, or managing predators in perpetuity).

255. Monitoring data shows that these frogs are able to persist in small pockets of suitable habitat remaining following forestry harvesting, and/or recolonise from adjacent habitats.
256. Given this situation we find that the potential effects on frogs attributed to the landfill proposal may have been overestimated by some submitters, and secondly, the frogs may be more adaptable than suspected.
257. We find that the removal of Stockpile 2 and the replacement of the previously proposed 100m+ culvert with a bridge, will result in the protection and enhancement (through predator control) of two significant frog hotspots.
258. We note that proposed Condition 120 requires monitoring of frog abundance in areas of pest control and enhancement planting and contingency measures to be developed a 10% increase in relative abundance of frogs is not achieved within 10 years within proposed pest control sites; and / or the colonisation of suitable revegetated stream habitats is not achieved within 35 years. The contingency measures are to be developed in consultation with Council and the Department of Conservation Amphibian Technical Advisory Group. This requirement reduces uncertainty somewhat in that the delivery of compensation will continue to be linked to measured outcomes rather than predicted outcomes. We have included an explicit requirement that the monitoring be undertaken annually, and that the results are to be submitted to Council. Those elements may have been assumed but were not reflected in the condition.
259. In terms of overall loss of aquatic habitat, we find that while there will be a permanent loss of stream channels and associated habitat, those effects have been appropriately assessed, and will be adequately offset (see discussion below). The direct impacts on biota (in particular frogs) will be minimised to a practicable minimum and acceptable extent.

15.11.2 Impacts on Wetlands and Wetland Birds

260. The applicant's proposal provides a trade-off in which the loss of degraded wetland habitat will be offset by the enhancement of two wetlands of substantially higher quality. The implementation of a long-term wetland enhancement programme (including fencing, plant/animal pest control and buffer planting) for the two unaffected high-quality wetlands would provide a positive outcome for wetlands and their terrestrial fauna inhabitants in this area. While the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 ("**NES-FW**") provides increased protection for wetlands, the applicant's wetland enhancement proposal goes beyond the minimum requirements therein.
261. We find that the project's impacts on wetland birds will be addressed adequately by the protection and enhancement of the high-quality wetlands on-site. In particular, the increased buffers will provide alternative habitat for wetland birds (including fernbird, spotless crane, and Australasian bittern) displaced from the degraded wetland habitat

that will be impacted by the project. Furthermore, the proposed predator control is likely to improve wetland bird breeding success. In that regard, during his site visit, Mr Chapman observed a pair of fernbirds within the northern Wayby Wetland⁶⁵. Their presence in that area was not detected by the applicant's ecologists. That observation suggests that fernbirds may be more widespread across the site than previously indicated.

15.11.3 Offsite offset

262. While the project will result in the permanent loss of 14km of streams comprising 6.3 km of permanent habitat and 7.7km of intermittent habitat (Ms Quinn, EIC 6.5) where practicable, stream loss has been avoided, through the removal of Stockpile 2 and replacing the Access Road culvert with a bridge. Ms Quinn advised (EIC 6.49) that Waste Management has committed to provide for no net loss of ecological function for all stream habitat impacted; this being addressed by restoration and planting of streams within Waste Management landholdings and within the Hōteio catchment (Offsite offset), based on the Stream Ecological Valuation (SEV) and Environmental Compensation Ratio (ECR) approach. This approach was criticised by the Department of Conservation⁶⁶ who noted that the ECR calculation using the SEV does require expert judgment in selecting sites and can also fail to take into account some biodiversity values at the impacted and off-setting sites⁶⁷.
263. In responding to DoC's concerns Ms Quinn⁶⁸ agreed that the loss of 14 km of stream is a significant effect at the local scale but does not agree that this loss will have impacts on the Hōteio at a catchment scale. This appears to be largely based on the fact that, according to Ms Quinn, there are some 5,724 km total length of stream within the Hōteio catchment (which was illustrated to the Panel with a catchment map highlighting the streams) and the project will impact 17% of streams within the Waste Management holdings area (1,000 ha) less than 0.002% of that total stream length within the catchment.
264. In his initial technical assessment for the Council Mr Lowe identified a number of concerns about the Stream Offset and Compensation Package, to which he refers in a subsequent Memo (9/11/2020). He considers that these concerns have now been addressed by the applicant, who has demonstrated offsetting to a no net loss outcome.
265. Also of some concern to submitters was the ability of the applicant to locate areas of aquatic habitat, preferably within the Hōteio River catchment, suitable for the proposed offsite offset for the loss of the 14km of stream within the landfill area. While the applicant advised that the proposed specific sites have yet to be identified, it is clear that there are a significant number of streams that have been identified within the Hōteio catchment in which such offset work could be undertaken. We also note that

⁶⁵ Memo: Notes of Key Terrestrial Ecology Issues by Mr Chapman – 21 December 2020 (7)

⁶⁶ EIC of Dr Clearwater (91)

⁶⁷ Ibid (92)

⁶⁸ EIC of Ms Quinn (7.41)

Mr Dill considered there would be strong interest by farmers in the opportunity for riparian restoration within their properties.

Offset Models

266. Several expert witnesses for the Department of Conservation, namely Dr Germano (herpetology), Dr Corkery (avifauna and offsetting), Ms Thurley (bats) and Dr Maseyk (biodiversity and offsetting), and expert witnesses for Te Rūnanga o Ngāti Whatua, commented on the approach to offsetting undertaken by the applicant in relation to these components of the site's ecosystem. In summary these experts considered that approach presented by the applicant's witness, Dr Baber, addressing these aspects, was optimistic in relation to the potential outcomes of the proposed offsetting. Addressing these concerns Dr Baber (Rebuttal evidence 7.17) concluded that the principles of offsetting are to be adhered to; where feasible, offsets (and no net loss outcomes) need to be demonstrably verified through monitoring and that the assurance that net gains are likely to be achieved also through monitoring and the application of quantitative based compensation models.
267. Concerns were also expressed about the certainty of the offset elements of the effects management package. During the course of the hearing Waste Management sought to address these concerns, in particular those associated with the offsite offset programme relating to waterways, by expanding the onsite offset programme and strengthening the relevant consent conditions.
268. With respect to the onsite offset programme the applicant considered it was appropriate to require the offset works within the Waste Management land to be completed within 5 years of commencing the consent. With respect to the offsite offset programme the applicant agreed to a condition that requires the consent holder to have completed the stream offset works within fifteen (15) years following commencement of consent for all stream enhancement works outside of the Waste Management landholdings, with a target of no less than 2 kilometres per year (until such time as a no net loss outcome can be demonstrated). We consider that a minimum of 2km per year better reflects the intent to minimise uncertainty to the greatest extent practicable and have amended Condition 123 accordingly. To ensure that this work is undertaken a bond condition has been formulated that ensures compliance with all conditions of these consents and to ensure that any onsite and offsite ecological enhancement or restoration work required is completed.
269. A further condition requires that, prior to the landfill commencement date, the consent holder is to have completed, or be able to provide confirmation that there is land available to complete 25km of offsite offset stream planting.
270. While some submitters considered that this offsetting would compete with the Waka Kotahi's Warkworth to Wellsford project, we are informed (AEE Warkworth to Wellsford p 229) that this project expects it will be able to fully mitigate the effects on freshwater resources from the project within the proposed designation boundaries and therefore we consider that the Waka Kotahi's proposed offset works would supplement, rather than compete, with the offsetting proposed by Waste Management. Submitters also suggested that the offset works would essentially double count what was to be achieved within the catchment via other existing and

proposed riparian enhancement programmes. However, given the extent of stream lengths within the catchment that are likely to benefit from restoration, and the cost of riparian planting and fencing, we consider that the offset works proposed by Waste Management would complement rather than compete with other programmes.

271. We find that the package of works proposed within and beyond the Waste Management land will appropriately offset the loss of stream habitat, and the proposed consent conditions provide sufficient surety that those outcomes will be achieved.

15.12 TERRESTRIAL ECOLOGY

15.12.1 Pine Forest

272. The use of Valley 1 as the landfill site would also result in the loss of an area of production pine forest. That forest is within an existing harvesting cycle. Therefore, we must accept the harvesting of the forest as an activity that is permitted and part of the existing environment. Nor would the AUP prevent the conversion of the valley to pasture.

15.12.2 Long-tailed Bats

273. The local long-tailed population is highly ecologically significant due to the species' Nationally Critical threat status. Several submitters were of the view that habitat loss that would be caused by the construction of the proposed landfill would be unacceptable. The loss of bat roosts and important foraging areas and commuting flight paths would indeed have a significant adverse effect on a bat population that is likely to already be under pressure from historic habitat loss and the ongoing impacts of introduced predators.
274. Submitters' arguments on the topic of bats fell broadly into several themes:
- a. The importance of the project area for bats and therefore the level of adverse effects of the project on bats have been underestimated.
 - b. Inadequate measures to avoid and mitigate effects on bats have been proposed.
 - c. Further research would be required to reduce uncertainty around the identification, quantification, avoidance, and management of effects on bats.
275. The applicant considered that the primary effect on bats in this area occurs from permitted forestry activities, namely harvesting of potential roosts, rather than the loss of potential roosts as a result of the landfill project, primarily because of the relatively small area that will be utilised by the landfill area and that fact very few roosting sites have been recorded in the landfill area (Simon Chapman, pers obs).
276. In contrast to the bat roosting situation, Mr Chapman noted that the project site's mix of wetlands, watercourses, pasture, and forests provide excellent foraging habitat for long-tailed bats. However, he notes that long-tailed bats have very large home ranges (hundreds or even thousands of hectares) and the habitats present on-site are

abundant in the wider landscape around the project footprint and beyond⁶⁹. Mr Chapman considers that the local bat population has almost certainly declined substantially already due to the impacts of introduced predators and the historic clearance of old growth native forest and is likely still declining due to the ongoing impacts of introduced predators.

277. We agree with DOC's evidence that mitigation/compensation measures for bats such as tree removal protocols (to ensure occupied roost trees are not felled) and artificial bat roost boxes remain unproven (although there is an increasing body of evidence which suggests that long-tailed bats do at times use artificial roost boxes). We also accept DOC's point (which was supported by a real-world example) that without radio-tracking, there is a risk that the proposed pest control may not be carried out in key bat roosting areas. Issues around the size, location and buffers of the pest control area were also raised by DOC.
278. Despite the inherent weaknesses in the options available to manage effects on bats, our view is that, except for lighting management, the package of measures put forward by the applicant is adequate. It would be better to use tree removal protocols and artificial bat roost boxes as proposed rather than exclude those options from the effects management package.
279. While there is a risk that the proposed pest control areas may not protect the local bat population's key roosting areas, we find the risk to be low and acceptable. While the proposed pest control area may fall short of the area DOC considers necessary to recover bat populations, we find it to be commensurate with the project's likely adverse effects on bats.
280. The project's lighting should be managed in accordance with current best practice to avoid/minimise effects on bats, and particularly their commuting flight paths and foraging areas. In that regard, we prefer the conditions provided by Mr McKensy and in particular, we accept his evidence that the maximum correlated colour temperature ("CCT") of 2700K should be imposed. We accept Mr McKensy's expert advice that this limit does not create a safety risk in terms of colour rendering, and such fittings can be sourced.
281. We agree with DOC's evidence that radio-tracking is by far the best methodology to identify key bat habitats including roosting and foraging areas. A successful radio-tracking programme could potentially be used to decrease uncertainty around the project's effects as well as confirm whether the proposed pest control will protect important bat roosting habitat outside the project footprint. However, radio-tracking is difficult and as there is no guarantee that a radio-tracking programme would succeed, we find that such a programme is not necessary.
282. We find agreement with Simon Chapman's conclusion that it is unlikely that the loss of the bat foraging habitats from within the project footprint would exacerbate the decline of the local bat population. Overall, we find that the proposal would not impact the bat population to an unacceptable level.

⁶⁹ Memo: Notes on Key Terrestrial Ecology Issues by Mr Chapman – 21 December 2020 (7)

15.12.3 Adequacy of Offset/Compensation Modelling Approach

283. Offset/compensation modelling is a tool to assist in decision making processes. Some submitters (e.g. Forest & Bird) were critical of the qualitative approach taken by the applicant, highlighting that quantitative data could have been used instead if more assessments were carried out. Regarding frogs, bats, and lizards, we do not consider that further assessment work (e.g., radio-tracking for bats, further frog surveys, quantitative fish data) would have allowed for meaningful quantitative modelling that would further assist with decision-making. While the quantitative results of such further assessment may give the impression of increased precision, survey and monitoring data for the fauna groups concerned are inherently variable and difficult to interpret. The applicant's approach to this uncertainty was to adopt a conservative approach towards assessing effects and applying a comprehensive effects management package that seeks to achieve a net gain, which provides more confidence in at least achieving no net loss. We accept the applicant's approach.

15.13 LEACHATE EFFECTS

284. A fundamental, and understandable, concern expressed universally by submitters is the potential impact that leachate could have on human and ecological health downstream of the site, throughout the Hōteio and into the Kaipara Moana.

285. Factors relevant to this matter have been discussed throughout preceding sections of the decision, in particular:

- The geotechnical design of the landfill, which we are satisfied will appropriately minimise the risk of landfill failure
- The liner design, which we are satisfied meets industry best practice for the containment of leachate
- The leachate management and monitoring system, which we are satisfied will collect and remove leachate for treatment and will be able to detect any unlikely seepage of leachate with sufficient warning to ensure downstream adverse effects are effectively avoided
- Modelling of leachate migration at rates much higher than anticipated could occur, with results remaining at or below detection limits
- The stormwater treatment pond design and dam safety design that will ensure an appropriate level of stormwater quality and minimise hazard.

286. We also note Mr Horide's confirmation that Waste Management no longer proposes to irrigate leachate onto the landfill surface.

287. Waste Acceptance Criteria ("**WAC**") are the rules that govern that types of waste that can be placed in the landfill. The project proposes to construct and operate a Class 1 landfill, which means it will receive non-hazardous municipal solid waste and it will not accept hazardous waste, so the WAC includes limits on how much of a hazardous

substance can be present before the waste is not acceptable⁷⁰. Leachate monitoring is an important check on the effectiveness of the WAC. The WAC for ARL is described in terms of five broad aspects, namely acceptable wastes; prohibited wastes; potentially hazardous wastes; physical considerations and case-by-case waste assumptions.

288. Overall, the applicant's view was that WAC restricts toxic wastes and prohibits corrosive waste, thus ensuring the maintenance of the integrity of the liner for the several hundred years that are required for the waste to break down.⁷¹ The submitters challenged the rigour or practicality of ensuring constant compliance with the WAC. For example, specific concern was raised by Dave Fletcher and others regarding lithium batteries being disposed in household waste, and the risk of those causing fire or other failure of the liner. In response to that point, Mr Horide described that as best practice, batteries are removed from the waste stream before arrival at the landfill but conceded that some continue to be received in refuse. He acknowledged that while not common, batteries are known to cause fires in waste haulage trucks and surface fires in loose waste in the working face and described how these are extinguished such that they are shorted lived. Mr Horide also explained how batteries are identified at a landfill and removed and encapsulated with grout or otherwise removed. He considered that isolated batteries do not present a significant risk of sub-surface fire, with localised heating dissipating as oxygen is rapidly depleted within the compacted waste.
289. Ms Simpson described the Human Health Risk Assessment ("HRA") that had been undertaken for the proposal, which evaluates any increased risk of health effects associated with exposure to contaminants from the proposed landfill. The health risk assessment methodology enables consideration of co-exposure to multiple contaminants from different sources e.g. leachate or stormwater and exposure pathways (e.g. inhalation or ingestion). The HRA used data from the Redvale Landfill to estimate worst case concentrations of contaminants in leachate and landfill gas.
290. The project's lining system and leachate management are designed to capture leachate however for the purposes of this assessment several potential pathways to shallow groundwater and an unnamed stream and stormwater runoff were assessed in the HRA.
291. The major findings were that the modelled concentrations of potential leachate in surface water, should in the unlikely event leachate escape, are expected to be significantly less than detection limits and the ecological and human health criteria. We also note that the HRA modelling predicted that concentrations of residual metals from the treated stormwater would be below ecological and human health criteria immediately downstream of the site. Concentrations of these metals in Te Awa o Hotoe are dominated by existing background concentrations and the discharges from the landfill will not materially increase these concentrations.

⁷⁰ EIC of Ms Kneebone (3.2)

⁷¹ EIC of Ms Eldridge (1.5)

292. In summary, given the conservative assumptions in the cumulative assessment, Ms Simpson considered that these findings represent a negligible risk of health effects.⁷²
293. We note Ms Simpson also responded to evidence from Susan Clearwater of DoC with regards to potential contamination of mahinga kai in surrounding waterways. Ms Simpson considered that even if leachate were to seep through the lining system into the sub-soil drains at the modelled rate and was to continuously discharge into the un-named stream, this would represent a negligible risk of health effects. Further, there was a negligible potential for health effects arising from mahinga kai (including long-fin eels and freshwater crayfish) being contaminated.
294. As noted, submitters expressed understandable concerns regarding human and ecological health risk. However, no competing expert evidence was presented. The extent that the presence of the landfill could alter people's contact with and use of the river and coastal environments is a consideration that we address later.
295. Ms Tang recommended monitoring of the Te Awa Hōteu as one of the receptors assessed in the HRA due to its significant values to local Iwi and the community. As we have discussed earlier, the applicant has proposed a comprehensive groundwater and surface water monitoring programme to achieve early detection of potential migration or discharge of leachate all upstream of the Hōteu. This has included additional continuous conductivity monitoring of groundwater as recommended by Ms Webster and Mr Perwick. The HRA has incorporated potential discharges that would in practice be identified by the monitoring and responded to before significant discharge occurs. Mr Van de Munckhoff responded that it would be difficult to differentiate any effects between stormwater discharges from the ARL and the broader catchment and did not support the additional monitoring recommended by Ms Tang. We are satisfied that the monitoring proposed by the applicant is appropriate and is consistent with the approach taken for the HRA.
296. We find that the landfill will not result in an adverse human health risk and will effectively avoid ecological health effects associated with leachate. This finding is based on the comprehensively low risks reported through the HRA, when considered with our findings on the other matters listed above. In particular, we note that while the HRA used conservative assumptions with respect to leachate migration, the proposal seeks to avoid leachate migration. The effects of migration have been considered as a worst case scenario and are beyond those likely even from a detected and remediated discharge such as seepage via overland flow or a failure in the liner.

15.14 LANDSCAPE AND VISUAL EFFECTS

297. The landscape effects and the visual amenity effects were comprehensively reported on in the application by John Goodwin who also presented evidence for the applicant at the hearing. Peter Kensington had reviewed this material for the Council and found agreement with the information and the views expressed by Mr Goodwin.
298. The situation would be that during the site establishment and construction phase there will be moderate (more than minor) adverse landscape effects on the topography

⁷² EIC of Ms Simpson (8.6)

associated with the works for the access road and the southern block, with the landscape character of the southern block and with the streams in the eastern block (the landfill footprint). Furthermore, during the site establishment and construction phase there is the potential for moderate-high (more than minor) adverse visual effects on residents adjacent to Spring Hill Farm.

299. A number of measures are proposed in the application to avoid, remedy or mitigate these adverse effects. These include avoiding the outstanding natural landscape (“ONL”) and avoiding native vegetation clearance within SEA areas and Wetland Management Areas as far as is practicable and carrying out native revegetation planting along the cut and fill slopes, particularly along the main access road. The adverse effects affecting receivers adjacent to Spring Hill Farm were noted as being temporary and affecting only a small number of viewers. One is owned by the applicant, another likely to be purchased by Waka Kotahi Waka Kotahi and the other will be screened by existing and proposed planting. Noting these factors, Mr Kensington concluded in his reporting for Council that adverse landscape and visual effects will be effectively avoided, remedied or mitigated during the site establishment and construction period.
300. We note that the adverse landscape and visual effects that will result during the construction period will be a consequence of the removal of vegetation, the reclamation of streams (although less visual given their actual physical location) and the undertaking of earthworks.
301. Mr Goodwin presented a detailed evaluation of the operational landfill proposal from which he was able to conclude that the proposal will result in adverse landscape and visual effects that can be effectively avoided, and/or mitigated through appropriate landscape management techniques (as provided through conditions and provisions) to achieve an outcome that will overtime be successfully integrated into the rural environment, and will meet the relevant landscape and visual amenity focused statutory provisions.
302. He provided a response to submissions. He noted there are no residents that would have views of the project works that had made submissions with respect to landscape or visual matters. Specific concerns that were raised by others include the effects on the Dome Valley landscape, the effects on rural amenity and special landscape areas and public walking access opportunities. In these respects, his view was that once the physical works for the proposed landfill are completed, and replacement planting along with the revegetation of the batter slopes and margins of the road and stream have become established, that the character and visual amenity of the locality will be restored, and many residual adverse effects would in his opinion be negligible.
303. He also referred to the WW2W Notice of Requirement, that adjoining this section of SH1, which in time would require works that would also affect the landscape character and visual amenity of the Dome Valley. He referred further to the avoidance of the ONL, the landfill activities being visually discreet from both the area of the ONL within the landholding and the Hoteo ONF, thereby minimizing any perceptual effects on these natural features.

304. We acknowledge the in depth consideration of the potential landscape effects and the visual amenity effects as carried out by Mr Goodwin and recognize that the construction period associated with the establishment of the landfill will necessarily require removal of vegetation, reclamation of streams and earthworks.
305. We also record that we have had the opportunity to visit the subject area and to consider the concerns of submitters and the views expressed by Mr Goodwin. We note from our visits that the proposed landfill and associated activities will indeed be visible for locations well removed from the site. During the operational phase we acknowledge that Stockpile 1 in particular would be visible from Wellsford and areas nearer the site, to varying degrees depending on the phase of works and stabilisation in a given year. We do not find that visibility to be adverse to a degree that could be considered to be more than a minor. The views to the landfill and associated activities will be compatible with activities that can be expected in the Rural zone.
306. However, following the completion of the establishment works we would not expect, from the application details and the evidence presented to us, that landscape effects and visual effects would be to a degree that could be considered unacceptable in the context of the location of the site in this locality.

15.15 RURAL CHARACTER, COMMUNITY, WELLBEING AND AMENITY

307. The considerations in these respects largely arise from the associated objectives and policies in the AUP.
308. The AUP includes objectives and policies that enable a range of rural production activities and “*a limited range of other activities*’ in rural areas so that essential infrastructure can be provided. The provisions seek to maintain or enhance rural character and amenity by managing the effects of rural character to achieve a character, scale, intensity, and location that is in keeping with the predominantly working rural environment. The AUP recognises that apart from the predominantly working rural environment, other accepted rural activities exhibit characteristics of there being fewer buildings of an urban scale, nature and design and, a general absence of infrastructure which is of an urban type and scale.
309. These provisions in the AUP were addressed in the s42A Report by Mr Ross. He was of the view that the proposal is not an activity or service that supports the function of rural areas for people to work, live, and recreate, but that it falls within the limited range of “*other activities*” that can establish in rural areas. He saw the proposed landfill to be an appropriate activity within the subject rural environment for reasons including it being well separated from surrounding sites therefore having a buffer in respect of potential nuisance effects; the ability to mitigate any adverse landscape and visual effects; and the landfill not being of a scale that would be inconsistent with other rural production activities.
310. Taking account of the measures included as part of the proposal, we find general agreement with Mr Ross in these respects and that the proposed landfill can be accommodated in this location, with respect to rural character, community wellbeing and amenity. We acknowledge in all these respects the related objectives and policies

that refer to the potential adverse effects of noise, dust, and odour, all of which are proposed to be satisfactorily managed.

311. We note that the proposed landfill may be large but the location, operation and management of it will mean it is not out of keeping with the rural character and amenity of the locality in a similar way that might result from a quarry for example, which is not completely in keeping with rural character, but is otherwise appropriately located. It is a facility that meets the needs of the Auckland community and to provide for its ongoing wellbeing. In these respects, it is consistent with the notions of community, wellbeing, and amenity.
312. We find the proposed landfill to be acceptable within that rural environment and will not compromise the amenity of the area.

15.16 TRANSPORTATION AND TRAFFIC SAFETY

313. The traffic effects associated with the operation of the proposed landfill were detailed in the Integrated Transport Assessment (“**ITA**”) included with the application and assessed by Gary Black, traffic consultant as part of the Council’s reporting on the application.
314. Mr Black pointed out the proposed landfill is estimated to generate approximately 740 vehicle trips per day (“**vpd**”), comprising the inbound and outbound movements of 520 waste trucks and 220 non-waste vehicles. The estimated trip total during the morning and peak hours is 55, which includes the inbound and outbound movements of 30 waste trucks and 25 non-waste vehicles. These figures are based on predicted forecasts for 2028, when the landfill is forecast to be fully operational and are based on an annual growth rate of 3%. The traffic generated represents approximately 3% of the traffic on SH1 in the morning peak hour and 1% in the evening peak hour, with provision made to ensure vehicle trips are spread throughout the day to avoid the peak periods.
315. The proposed landfill would be accessed from SH1 by way of a proposed roundabout, the design and location of which has been discussed with Waka Kotahi Waka Kotahi. Modelling indicates it will operate at a level of service (“**LOS**”) of A, that being representative of free-flowing traffic with modest/average delays. The proposed additional heavy vehicle trips to and from the proposed landfill along SH1 and through Dome Valley would not exacerbate existing issues, according to the ITA and Mr Black, as these would largely be mitigated by the safety improvements currently being undertaken and expected to be complete in 2021. We observed those safety improvements being carried out as part of one of our visits to the locality.
316. Don McKenzie had overseen and directed the preparation of the ITA and provided evidence for the applicant in which he referred to the baseline network environment including the current arrangement of SH1 plus the P2WW Northern Motorway Extension and the safety related works being carried out by Waka Kotahi through the Dome Valley. He had not included the next stage of the WW2W Northern Motorway Extension from Warkworth to Wellsford in his considerations because that project was currently the subject of a Notice of Requirement. He referred to the proposed roundabout controlled access and its design having been prepared in consultation

with Waka Kotahi Waka Kotahi. WMNZ was proposing a set of conditions of consent that required it to develop the detailed design and construction of the roundabout in consultation with Waka Kotahi.

317. Mr McKenzie also referred to the intended use of an existing access road, Crowther Road is located approximately 3.8km south of the landfill access road and would be used during the initial stages of site clearance and establishment. Again, Waka Kotahi Waka Kotahi had been consulted regarding the upgrading of the Crowther Road access point and had expressed support for that upgrade together with temporary construction-related access measures, all to be managed by the Construction Traffic Management Plan (“CTMP”) process.
318. Submitters raised a range of concerns including construction traffic effects; road safety and the high accident rate that would be exacerbated by additional traffic; the roundabout; and the adequacy of the ITA.
319. We find that the traffic associated with construction can be satisfactorily managed by way of the measures proposed in the application and the preparation of a CTMP along with the improvements currently being carried out by Waka Kotahi. The concerns of submitters have either been anticipated in the arrangements proposed or acknowledged in the evidence from Mr McKenzie with the measures to be adopted. He acknowledged the concern of submitters regarding the high accident rate along SH1 in the Dome Valley and their view that additional traffic associated with the proposed landfill would exacerbate that situation. He pointed out that Waka Kotahi Waka Kotahi and its safety alliance partners through the Safer Network Programme are currently carrying out works to specifically address traffic safety, and those works will be completed well in advance of the operation of the proposed landfill.
320. The concerns, including those expressed by Ian Sarney, Richard and Robyn Brown, the Sustainable Energy Forum and Susan Speedy for the introduction of a roundabout are acknowledged but we find, from the evidence, that this will appropriately provide for the proposed landfill, add an additional speed management feature to the safety improvement works being carried out and has been specifically addressed in discussions with Waka Kotahi.
321. MERRA were concerned that the safety and congestion effects of the proposal had not been adequately assessed or reported on and do not align with the guidance for such transportation assessment as set out in AT’s ITA Guidelines. As pointed out by Mr McKenzie, the expected levels of generated traffic volumes associated with the project remain within the practical and operational capacity of the existing SH1 route, and whilst the project will bring about additional levels of heavy traffic movements along the route, there is nothing associated with the scale or nature of these additional volumes, both in the short and longer terms, that would lead him to conclude that the current SH1 route is inappropriate to cater for this traffic activity as generated by the proposed landfill. Ms O’Connor also addressed similar concerns relating to the roading situation around the Skyworks Helicopters operation close to Warkworth.
322. We accept the analysis to show that SH1 retains sufficient capacity even at peak conditions out to the year 2060. Mr McKenzie records in his evidence that his fellow transportation engineering colleagues from Waka Kotahi Waka Kotahi, AT and

Auckland Council have reached a similar conclusion in that the transportation effects of the project are acceptable.

323. In these respects, we note the concurrence of Mr McKenzie with the submissions from AT and Waka Kotahi which do not oppose the project, being respectively, in support or neutral and seeking that matters raised by them are addressed in the manner that Waste Management propose.

324. Mr Ross brought these various considerations together in his s.42A report when he stated, referring to the proposed landfill⁷³:

“Its location along SH 1 ensures that it will be readily accessible, while the level of traffic generated and the design of the roundabout access into the site along with the upgrades being undertaken along the state highway will ensure that traffic safety is not compromised.”

325. In commenting upon the operational phase of the project Mr Ross pointed out the additional levels of generated traffic are minimal and within the available capacity of the SH1 route and the planned improvements to SH1 and that the WW2W project will improve the capacity of the transport system serving it. Also, the proposed roundabout is supported by the detailed design review and safety auditing processes carried out to the satisfaction of Waka Kotahi; the safety consequences associated with additional heavy traffic movements along SH1 will not exacerbate existing safety issues to any measurable degree; Waka Kotahi’s improvements to SH1 through the Dome Valley are specifically addressing the existing safety issues; and, having considered each of the transportation matters associated with the operational phase of the project he concluded that the adverse traffic congestion and safety-related effects of the project will be both minor and acceptable.

326. Mr Ross commented on the establishment and construction phase. Again, he relied on the findings reached by the Council’s traffic engineer Mr Black, that the proposed physical improvements supported by the implementation of construction traffic management measures as proposed, will ensure there will be negligible adverse effects associated with traffic turning right into Crowther Road. This was supported further by the ability for construction vehicles to wait within a widened centreline proposed as part of the Waka Kotahi safety improvement works which include widening of the roadside shoulders and a median barrier. In that latter respect, Mr McKenzie was able to confirm that Waste Management was proposing the creation of a full right-turn bay to address this issue.

327. We acknowledge the concerns that submitters have in relation to traffic and the presentations they made through their written submissions and at the hearing. We also note, we have observed the traffic patterns from our visits to the locality. It is the case however, that this is a state highway with the capability of handling higher traffic volumes. The concerns regarding the Crowther Road intersection are intended to be overcome by the provision of a dedicated central turning bay serving right-turn movements from the south into Crowther Road which is expected to safely and

⁷³ s.42A Report, page 10

conveniently cater for the predicted turning movements. Waka Kotahi has provided its confirmation of this approach for site establishment and for construction traffic.

328. An issue that needed to be resolved was the proposed modifications to the Purvis/Appleby driveway as part of the upgrading of the Crowther Road construction access, as explained in Mr Purvis' submission and presentation to us. This proposed work is intended to facilitate safe right turning access into the site. The proposed work was detailed in rebuttal evidence from Mr McKenzie⁷⁴. It would require a reforming of the Purvis/Appleby access driveway at 761A SH1 as shown on the Draft Construction Management Plan within the Landfill Management Plan with the application. The proposed work would be in addition to the safety improvements intended to be carried out by Waka Kotahi to this driveway. Mr McKenzie stated that the additional widening in support of a right turn bay for entry into Crowther Road could only be supported if the improvements to the Purvis/Appleby driveway are made. Should agreement not be obtained then he described how a safe alternative to facilitating right turns into Crowther Road could be achieved by limiting all inbound movements to left in/left out. That issue remained unresolved at the hearing, but the conditions submitted by Waste Management provide for each alternative while that issue is settled.
329. We find that any associated effects from traffic associated with the proposed landfill can be managed in a manner that does not create unacceptable adverse effects upon motorists, the neighbouring residents in the locality or any other traffic effects.
330. In making this finding, we acknowledge the concerns of submitters relating to the local road network and, also the specific needs of those residents neighbouring the landfill site. But as stated, these can be satisfactorily accommodated. Those measures have been the subject of scrutiny of traffic engineers engaged not only by the applicant but also those associated with Waka Kotahi Waka Kotahi, AT and Auckland Council, with those technical experts all finding a satisfactory situation will prevail. There are the additional traffic safety measures being undertaken by Waka Kotahi along with the construction of the proposed P2WW motorway which will additionally provide a large measure of traffic safety within the area about the landfill site.
331. We find the resource consent application to be acceptable from a traffic point of view.

15.17 ODOUR AND AIR QUALITY

332. The potential impacts of the proposed landfill on air quality arise from three sources. Firstly, from contaminants generated from burning landfill gas (“LFG”) in the generators and flares at the renewable energy centre. Secondly, from odour from the waste itself or from LFG which contains traces of odourous gases. Thirdly, from dust that is generated at the proposed landfill.
333. In Mr Crimmins' reporting for the Council he stated the actual and potential effects of hazardous air pollutants (“HAPs”) can be adequately avoided, remedied and mitigated by adherence to recommended conditions of consent, including the design, maintenance and monitoring of the LFG control system and landfill capping. Further

⁷⁴ Second Statement of Rebuttal Evidence of Donald McKenzie

measures he recommended to minimize HAP discharges include routine point-source and ambient air quality monitoring and independent expert reviews.

334. Potential odour impacts would be limited, according to Mr Crimmins, given the limited number of sensitive receivers within 2km of the proposed landfill combined with topographic and meteorological factors and further, by limiting the area of the working face and by regular application of landfill cover. Again, the separation distances between the proposed landfill and sensitive receivers would serve to minimize dust discharges, along with a range of associated measures.
335. Mr Crimmins' conclusion in relation to discharges of hazardous air pollutants, odour and dust from the proposed landfill is that these discharges can be adequately controlled by conditions of consent and management measures so that they are not likely to cause significant adverse effects beyond the boundary of the site. In these respects, he recommended a comprehensive set of conditions of consent.
336. Mr Crimmins sought that review of the LFG monitoring data and control systems be matters included in the role of the Peer Review Panel ("**PRP**") as a key component of the landfill operation. Jenny Simpson for the applicant did not support that on the basis that the LFG system was not sufficiently complex, and its management was sufficiently flexible, such that it did not require overview by the PRP.
337. Ms Simpson, a specialist in air quality and hazardous substances management, had provided the material included with the application and was at the hearing to present expert evidence for the applicant. Ms Simpson discussed the discharges to air from the proposed landfill arriving at similar conclusions to Mr Crimmins. She pointed out further, there were no new issues raised in submissions that were not otherwise considered in the air quality assessment or the health risk assessment that she had earlier carried out for the project.
338. Ms Simpson said she did not agree with some of Mr Crimmins' recommended changes to conditions and additional consent conditions to those suggested consent conditions provided with the AEE. In particular:
 - a. Emerging technologies to detect fires or surface methane emissions are not sufficiently well-proven to be included as conditions of consent.
 - b. The recommended minimum frequencies of some of the reviews and monitoring should be reduced, given the relatively lower risk of effects at the proposed landfill compared to the sites to which these conditions were originally developed.
339. Further, she pointed out that in the s.42A report, there was reference to the potential for a technical non-compliance with the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 ("**NES-AQ**") which requires landfill gas collection and flaring once the in-situ mass waste at a landfill exceeds 200,000 tonnes. Ms Simpson pointed out the NES-AQ did not anticipate the relatively high waste acceptance rates at large regional landfills and this threshold would very likely be exceeded before sufficient time had elapsed for methane generation to have established. She saw that as a technical non-compliance because

the intent of the NES-AQ to control fugitive LFG emissions would be met, as will the limit of 5,000 ppm methane at the landfill surface.

340. Further, the Council officer had recommended a consent duration of 25 years on the basis of uncertainty and the risk of adverse effects increasing over time. Ms Simpson was of the view that the recommended review condition provides adequate scope for the Council to review the conditions of consent in the event relevant air quality standards change and added there are other conditions requiring periodic reviews of the adequacy of odour and LFG management measures and assessments of the landfill gas control system and air discharges against the Best Practicable Option (“BPO”) for minimizing air quality effects. These conditions further minimize uncertainty and the risk of adverse effects increasing over time and for all of these reasons, she considered a 35 year consent term was appropriate.
341. We find agreement with Ms Simpson in respect of these matters noting that Mr Crimmins has not unexpectedly adopted a conservative approach. From the additional evidence provided by Ms Simpson at the hearing, it is evident that these matters are sufficiently addressed for us to have confidence as decision-makers that they will not present any difficulties at a future time.
342. Ms Simpson provided a response to two of the submissions in her evidence, those being the submissions by Craig Purvis and by Fight the Tip Tiaki te Whenua Incorporated. Mr Purvis operates the certified organic horticultural operation at 761A SH1 and is concerned about airborne contaminants from the proposed landfill potentially depositing on his land, affecting the produce and his organic certification. Ms Simpson pointed out that the main source of airborne contaminants from the proposed landfill would be from the combustion of landfill gas and the flares and generators at the renewable energy centre. Mr Purvis’ property is located approximately 2.5km from that centre and is upwind of the predominant wind directions. She pointed out the HRA includes an evaluation of the potential effects from deposition of airborne contaminants onto soil and uptake into plants and the predicted impact on concentrations of contaminants from soil is negligible and would not be detectable in laboratory testing. Based on this, she did not consider there would be any impact of airborne contaminants from the proposed landfill on the produce itself or the ability to retain organic certification.
343. The submission by Fight the Tip Tiaki te Whenua Inc, raised concerns about odour and “*potential spread of odour neutralizing salts/zeolite*”. That is a mineral that can be used to absorb odours but is not used for odour control at landfills. Further, the reference to odour neutralizing salts Ms Simpson presumed to relate to the use of odour suppressant sprays which typically include oxidizing agents that are intended to neutralize airborne odours. At the low concentration used in spray systems at landfills, odour neutralizing sprays are, she said, essentially non-toxic and do not pose any off-site risks to people or the environment.
344. In these respects, those concerns as raised by submitters are specifically addressed in the evidence of Ms Simpson. We find agreement with her discussion.

345. We conclude, from the large amount of information relating to air quality, that all related issues relating to it are sufficiently covered in the application details for the proposed landfill and in the supporting evidence for the applicant.
346. In all the circumstances, we conclude that the effects on air quality are acceptable and are minor in nature, subject to the range of provisions included in the application and the supporting evidence.

15.18 NOISE AND VIBRATION EFFECTS

347. The noise associated with the proposed landfill was addressed at the hearing by Stephen Peakall for the applicant who described the locality about the proposed landfill site as being rural in nature, with existing dwellings located more than 360m from the site, predominantly to the west and the south. He stated the site is currently used for forestry and farming and is close to SH1.
348. Mr Peakall saw the relevant noise and vibration criteria that could be applied to the project as being those included in the AUP as the noise limits for the underlying Rural Production Zone and the general construction noise limits. He also recommended a Construction Noise and Vibration Management Plan (“**CNVMP**”) be prepared and implemented for the duration of construction of the Crowther Road works, which will be closer to dwellings than the main landfill area.
349. In respect of the operation of the proposed landfill, he noted the highest predicted daytime noise level from survey work was 43dB LAeq, that being a noise level which is at or below the existing ambient noise environment. He stated⁷⁵:

“While the landfill activity may be audible from time to time, I consider that the noise effects will be generally negligible during daytime. I also note that the noise levels are well within the relevant AUP (Rural Production zone) noise limit of 55 dB LAeq.”

350. Mr Peakall then referred to two issues that had been raised by Jon Styles in his review for the Council of the noise assessment included with the application. Those two issues related to:
- a. The use of a “date stamp” approach whereby only noise levels received at dwellings existing at the time of consent being granted are subject to compliance assessment, and
 - b. The extent to which the proposed noise limits may allow generated noise levels to be higher than that contained in the in the calculations.
351. Mr Peakall noted in his evidence that Mr Styles was concerned with the situation that may arise where a new dwelling is built and was subject to noise levels in excess of the levels that he had based his assessment of noise effects upon. He however, considered the chances of such a situation arising to be a low risk, due to the level of the noise emissions from the proposed landfill as well as the distance between the

⁷⁵ EIC of Stephen Peakall [1.8]

site and the nearest land that could theoretically be developed. He noted that should the proposed landfill operations change substantially in scale and character, further consents would need to be sought by the operator. In addition, he saw his approach as providing for reverse sensitivity effects and ensuring these do not arise at a future time.

352. In relation to the second point, being the noise limits for the proposed landfill, he had considered the noise sources from the proposed landfill and the existing noise environment in the vicinity in order to form an opinion as to what noise impacts the operation would create. He then reviewed the AUP regarding what similar types of activity may occur in the area and that would be subject to the Rural Production Zone provisions in ascertaining what he thought would be a reasonable noise limit to apply in this case. From that analysis he formed the opinion that a noise limit of 55dB LAeq during the day and 45dB LAeq at night time would be a reasonable noise limit to apply. He did acknowledge that those proposed limits are at the upper end of acceptability in terms of amenity, but further that it would be unreasonable in his view to impose a more stringent noise level on this activity when theoretically any other activity could emit noise levels up to those limits as of right in the Rural Production Zone.
353. Mr Styles had commented as part of the s.42A report that the applicant is seeking to essentially date stamp the applicant's approach to noise standards by only applying noise standard compliance to dwellings established at the date of granting consent. This approach Mr Styles stated, essentially uses neighbouring land as a noise buffer and in his assessment he stated this does not accord with best practice and is inappropriate. Further, he stated that the intensity of the landfill operation, and the associated character and duration of noise generated during the day time and night time periods, is greater than what could reasonably anticipated by activities within the Rural Production Zone.
354. He noted that the noise level productions for the landfill indicate that the predicted noise levels will be well below the maximum permitted noise levels within this zone, with the bin exchange area being an exception. However, the applicant was seeking a level of noise effects up to the maximum permitted by the Rural Production Zone provisions with the margin between the predicted noise levels and those permitted by the proposed condition being significant.
355. We agree with the approach of Mr Styles in that it is not appropriate to date stamp noise effects by only applying them to the notional boundaries, that is, a line 20m from any side of the building containing an activity sensitive to noise, or the legal boundary where this is closer to the building of existing dwellings. We agree that the effects of the landfill need to be managed within the site and should not rely on adjoining sites or affect the ability of people to be able to develop those adjoining sites in accordance with permitted zone requirements. To do otherwise could mean the construction of a dwelling in the Rural Production Zone beyond the site would see higher noise levels than would otherwise be expected in the zone.
356. Neither do we agree with the applicant's witness Mr Peakall that the permitted noise levels should be allowed to be at the upper end of those otherwise permitted within the Rural Production Zone. Those latter levels were not developed to anticipate nor provide for noise levels associated with activities other than those activities that are

permitted. The noise levels set for the Rural Production Zone can reasonably be taken to be those that can be expected within the zone, whether or not that is for any particular status of the activity within that zone, that level being set to be compatible with the anticipated activities and character of the area so zoned.

357. We have modified Condition 229 to address the matters raised by Mr Styles and the applicant's intent regarding off-site noise effects. We have also added a condition to require monitoring, as proposed by the applicant, to be reported to Council. This may have been assumed but was not explicit in the conditions.
358. We acknowledge that, in the consideration of noise from the proposed landfill we note that other than the bin exchange area, the main landfill operation will be well separated from site boundaries and will be located within a valley such that most noise generated will be contained within the site boundaries and will be well below permitted zone standards. That will serve to see the resultant noise levels being at a level that can be considered no more than minor and acceptable within the zone. That level of noise is further considered to be compatible with other activities that may reasonably establish within the zoned area. In addition, the conditions recommended by Mr Styles have been devised to protect night time amenity and to address this concern that was raised by submitters.
359. In all the circumstances we find the noise levels to be appropriate and acceptable based on the levels set as confirmed in the reporting from Mr Styles.

15.19 ARCHAEOLOGY AND HISTORIC HERITAGE

360. The applicant submitted an archaeological assessment, prepared by Dr Matthew Felgate, a specialist in archaeology and historic heritage, that described the history of the existing environment and assessed potential adverse effects of the project, as they relate to historic heritage values.
361. Dr Felgate noted that while Maori occupation sites and 19th century colonial-era Pakeha settler sites, within the Waste Management landholding, cannot be ruled out, none were on record and none were found during field investigations of the Project area, at the time of the assessment. Dr Felgate also noted that, on considering the submissions and the s.42A report, there was nothing in those documents that suggested any greater likelihood that any such sites will be found during the proposed works on the landholding. He recommended that the accidental discovery rule of the AUP was the best way to deal with any accidental archaeological discoveries during earthworks. That rule should be applied in addition to any specific protocols that may be agreed with mana whenua. The proposed conditions of consent attached to the evidence of Ms Brabant appropriately provide for this.
362. Dr Felgate also recommended that the cottage and woolshed on Spring Hill Farm, that were assessed as having some historic heritage values, be retained and adequately maintained. Heritage New Zealand, who opted not to attend the hearing, supported this recommendation, that provision is made to ensure the retention and maintenance of these structures (letter dated 22 October 2020).

363. In reviewing the archaeological assessment prepared by Dr Felgate, the Council's Historic Heritage Specialist, Mr Joe Mills, confirmed that the proposed works will not affect any scheduled archaeological sites in schedule 14.1 (Schedule of Historic Heritage) of the AUP(OP) records nor will they affect any unscheduled historic heritage sites or places.
364. We are in agreement with the findings of Dr Felgate and Mr Mills, and support the retention and maintenance of the cottage and woolshed on Spring Hill Farm.

15.20 AFTER CARE: BOND

365. The management of the landfill following its eventual closure will primarily be by way of the LMP. The LMP was provided with the application and it was updated as the hearing proceeded. As discussed by Bruce Horide in his primary evidence for the applicant, the LMP includes a checklist for closing down the landfill, a schedule for maintenance and monitoring during the post-closure period, and guidelines and responsibilities for addressing anything that is unplanned.
366. We find the contents of the LMP are what would reasonably be expected for such a closure and agree with the applicant that it addresses the relevant matters. The LMP is accordingly included as part of the conditions of the resource consent granted to the project. In particular, it addresses concerns regarding the future of the site following the closure of the landfill.
367. We heard evidence from both Ian Jenkins and Anthony Kortegast for the applicant relating to a financial bond associated with the closure of the landfill. The bond would provide for works that would be required to address matters that may arise or that have not been planned as part of the closure of the landfill and for aftercare of the site following closure.
368. Mr Kortegast saw the bond having three components:
- a. A cash sum for the management of acute environmental incidents if Waste Management does not act in an appropriate manner.
 - b. The cost of closure of the site due to an incident that results in commercial failure of WMNZ and the inability to continue with the landfill through to closure.
 - c. The cost of ongoing aftercare, management and monitoring of the site following closure.
369. As further stated by Mr Kortegast, each of the three primary bond components would be subject to 5 yearly reviews and are to be developed and agreed in advance of the landfilling commencing. In the conclusions to his evidence, Mr Jenkins stated that conditions of consent that require a bond, the basis for its derivation and the requirement the bond be reviewed periodically through the life of the project would mean there is adequate provision for potential risks associated with the landfill. We note that Mr Ross, as the Council's reporting officer, agreed with this approach.
370. We also agree with this approach to aftercare and to the imposition of a financial bond as presented through the evidence for the applicant and that this approach be

included as part of the conditions of consent. It is an approach that has been used at other refuse disposal facilities. We see it as ensuring there is appropriate provision for the eventual closure and aftercare of the landfill.

371. The General Conditions of consent then include a comprehensive set of conditions relating to the bond. The Aftercare Conditions of the consent include conditions requiring a post-closure period of 30 years with the associated monitoring and maintenance requirements for this aftercare period being set out in the Post Closure Management Plan, also required by a condition of consent. The consent holder is to have continuing responsibility for leachate and gas collection and disposal beyond the operating life of the landfill with the Post Closure Management Plan requiring details regarding the measures to be taken to stabilise the site and to maintain environmental controls including stormwater, leachate and landfill gas collection and treatment.
372. We find agreement with all these details relating to aftercare and bond arrangements for the landfill operation.

15.21 RISK

373. How to assess possible risks to the environment from the operation of the landfill was a key aspect of the hearing. We were presented with a range of possible adverse events that might occur (typically “what if” type questions – what if the liner failed and leachate escaped; what if there was a land fill fire?). We address these matters on a technical basis throughout our consideration of effects.
374. Mr Jenkins addressed risk in his evidence and referred to the Risk Management Assessment Report (“**RMAR**”) undertaken for the proposal. Mr Jenkins stated that the risks identified for the proposal as medium or low after mitigation. He considered the medium risks (after mitigation) to be acceptable, “on the basis that active risk management is in place throughout the design and construction of the ARL and through competent operational management, which will ensure [the] that these risks are mitigated to as low as reasonably practicable.”⁷⁶ Mr Jenkins reported that the RMAR considered the plausible risk scenarios that need to be evaluated for the proposal. In his opinion, the RMAR included risk scenarios identified in submissions and s.42A reports.
375. The range of risks particularly raised by submitters included:
- a. High rainfall overwhelming the leachate collection and disposal system leading to a substantial release of leachate.
 - b. The liner being breached due to unstable ground conditions and/or poor installation and/or incorrect placement of waste.
 - c. A large landfill fire resulting in destruction of part of the liner.
 - d. Contamination of ground and surface water from undetected but chronic leachate seepage

⁷⁶ EIC of Ian Jenkins [1.4]

376. A number of other “what if” type questions were also raised, like what if Waste Management could not fulfil their promise to off-set fully stream loss. We have considered that matter under our discussion of ecological effects, looking at the issue as one of compliance, rather than a risk and note that this is now locked in through the bond conditions.
377. Waste Management were confident that all land fill-related risks were either very remote, or contingencies were in place (such as via the Landfill Management Plans) to address these risks before they became significant.
378. Submitters pointed to the consequences of such events – the fragile ecological health of the Kaipara Harbour, for example. They did not consider that the risks should be tolerated, however small the chance of the events identified.
379. Waste Management provided a range of technical and expert evidence on risks and their management. Submitters provided anecdotal evidence, or simply raised quite understandable ‘what if’ type questions. Council provided evidence on various aspects of the proposal, including human health risks.
380. Waste Management had modelled the consequences for the Kaipara of a relatively small escape of leachate from minor ruptures to the liner, for example. This was considered to be good practice and recognised that other landfills had recorded some leachate escape. They did not model a large escape as their assessment was that such an event was very unlikely. They were careful to not claim that such an event will never happen.
381. Risk is recognised in the RMA by virtue of the meaning of ‘effect’. Section 3 of the RMA states that effects include “any potential effect of low probability which has a high potential impact.” (s.3(f))
382. This mirrors the common definition of risk as being a combination of probability of an event occurring and the consequence of that event.
383. Consequences can be physical as well as emotional or spiritual. Awareness of risk (or the probability of an event) can influence people’s relationship with an environment, influenced by the nature and strength of their cultural beliefs.
384. The RMA does not stipulate what combination of probability and consequence is tolerable or intolerable. This is for the Plan and consent process to determine. Mr Gardner for Federated Farmers suggested that there needs to be some sort of societal input into what are considered to be tolerable risks.
385. We note that on the question of risks, the AUP also does not define the boundary between tolerable and intolerable risks. This boundary is not a hard and fast line.
386. Looking across the AUP, it is possible to say that policy provides a number of pointers as to what is a tolerable risk. For example, the AUP seeks to avoid the adverse effects of landfill discharges, while the rural zone lists landfills as a non-complying activity. Furthermore, the Hōteu and Kaipara are identified in the Plan as having high values. The Kaipara Harbour needs to be restored. Together, these factors could be said to

signal a very low tolerance to potential risks arising from a landfill in the Kaipara catchment.

387. On the other hand, the AUP provides a degree of support for infrastructure, recognising the wider economic, social and environmental benefits of infrastructure. This could be taken as to support a degree of tolerance of risks due to the wider benefits provided.
388. To this context must be added the rider that a risk assessment is an input into decision making under the RMA. As with adverse effects (where a resource consent may be granted, even if some adverse effects are significant), a risk may be tolerated depending upon the circumstances. In simple terms, the risk may be tolerated if the rewards from taking that risk are worth it.
389. In their opening submissions Waste Management set out a number of Environment Court and High Court cases that have assessed risks under the RMA. These cases note that when assessing possible effects (risks), it is necessary to take a different approach to that of assessment of actual effects.

Determining actual effects on the environment is relatively straightforward, because it concerns existing factual circumstances that can be proved on the balance of probabilities. However, the authority must also take into account potential effects on the environment. The word "potential" denotes something other than proof, and cannot be assessed on the balance of probabilities.

The assessment of potential effects then depends on an evaluation of all of the evidence but does not depend on proving that potential effect will more likely than not occur.⁷⁷

390. The upshot of the cases outlined could be summarised as there needing to be some basis to the probability of an event occurring for it to be assessed as a 'possible' risk. However, that basis does not have to be that there is more than 50% chance of an event occurring for it to be taken seriously, for example. An event may be unlikely, but real. But equally, there needs to be some evidence supporting that an event is possible.
391. For example, during the course of the hearing we were presented with a number of recent examples of landfill fires. On the basis of that information, it is reasonable to assume that a landfill fire is a possible event. The consequences of an uncontrolled fire for receiving environments could be substantial. The question then becomes as to whether there are management actions that could be taken to limit the likelihood and consequences of such an event. This is a matter that is addressed in detail in the Landfill Management Plan.
392. At the other end of the spectrum, we were not presented with any contemporary examples of the catastrophic collapse of a landfill. Reference was made to events like the recent Fox River floods in Westland which exposed an old landfill. But that is a historical landfill on the side of a river, not a modern landfill. On the basis of there

⁷⁷ RJ Davidson Family Trust v Marlborough District Council [2017] NZHC 52 [129]

being no evidence indicating that a catastrophic collapse is likely (even at an unlikely probability) it is our assessment, and as we have discussed, that a catastrophic collapse is too remote a prospect to be considered.

393. As we have also discussed, some form of minor malfunction of the liner may be a possible event, along with higher than anticipated rainfall frequency and intensity. But on the basis of the evidence provided we find that leachate escape is an unlikely but possible event (far from certain). The evidence was that the consequences of a small leachate escape are negligible.
394. As for risks associated with high levels of rain fall, by the end of the hearing, Waste Management had clarified that their design was based on the elevated levels of rainfall experienced in the Dome Valley area. While we appreciate that climate change makes predictions as to future rain fall events less precise, we accept the evidence that the landfill design ensures that leachate generation will not reach a level that will overwhelm the collection and disposal system.
395. We now turn to whether consequences for cultural values (rather than physical, ecological values) are significant. This in the context of the probability of a minor escape of leachate happening being at the low end of the probability scale, and few if any manifest physical effects. Is the chance of an event (however small in probability and physical consequence) still likely to harm cultural values? The Mana Whenua groups contend that their cultural values will be compromised by the ‘threat’ of leachate escape. In support of the relevance of cultural values, our attention was drawn to an Environment Court decision where it was accepted that discharge of treated wastewater to a water body would not harm water quality or other physical factors, but it would harm cultural beliefs. Disposal to land should be undertaken first.
396. We accept that adverse consequences for cultural beliefs is a valid concern to hold when assessing risks, and that these consequences are separate to those of physical (or tangible) consequences. We must also accept, on the basis of the submissions we have received, that the risk of leachate discharge is one element that does compromise those beliefs. We also accept that people have differing tolerances for risk, and submitters have described a range of backgrounds that influence their tolerance and concern. However, taking into account the predicted low risk of physical effects on Te Awa o Hoteo and Kaipara Moana, this ‘cultural consequence’ does not lead us to a conclusion that the risks associated with the proposal will be unacceptable.

15.22 CULTURAL VALUES AND MANA WHENUA INTERESTS

15.22.1 Mana whenua submitters

397. In their Opening Legal Submissions⁷⁸ Counsel for Ngāti Manuhiri, Jason Pou and Counsel for Te Rūnanga o Ngāti Whātua, Rob Enright, set out the collective position of the iwi they each represent.

⁷⁸ Opening Legal Submissions For: Ngāti Manuhiri Settlement Trust and Te Rūnanga o Ngāti Whātua, 25 November 2020

398. We were told that Ngāti Manuhiri Settlement Trust (“**Ngāti Manuhiri**”) and Te Rūnanga o Ngāti Whātua (“**Te Rūnanga**”) are the mandated Iwi Authorities that represent the key Māori interests affected by the applications.

Ngāti Manuhiri Settlement Trust

399. The Ngāti Manuhiri Settlement Trust is the Post Settlement Governance Entity, ratified by the Ngāti Manuhiri people to do, amongst other things:

- Receive and administer the settlement assets of Ngāti Manuhiri on behalf of and for the benefit of its present and future members; and
- Promote the cultural, spiritual and economic well-being of Ngāti Manuhiri peoples.

400. Mr Pou emphasised that Ngāti Manuhiri hold rangatiratanga over the area in which the application is proposed to be located. It was within this region that Ngāti Manuhiri developed their own distinct identity as a tribal grouping, joining with, and forming strategic alliances with others to cement their place as tangata whenua of the region. The customary interests of Ngāti Manuhiri were legally severed within a regime of fraudulent purchasing and timber licensing which saw neighbouring iwi paid for the alienation of lands and resources of Ngāti Manuhiri.

Te Rūnanga o Ngāti Whātua

401. Te Rūnanga is the governing body representing Iwi, hapū and 35 marae of the Ngāti Whātua confederation.⁷⁹ It is constituted under the Te Rūnanga o Ngāti Whātua Act 1988. Te Rūnanga is the sole representative body authorised to deal with issues affecting the whole of Ngāti Whātua, about 15,000 beneficiaries.⁸⁰ The rohe of the wider Ngāti Whātua confederation includes the four harbours of Hokianga, Kaipara, Waitematā and Manukau. The Cultural Values Assessment (Addendum) records that the Mission of the Rūnanga is to provide for the development of Ngāti Whātua as a strong and caring Iwi.⁸¹

402. Mr Enright submitted that Ngāti Whātua asserts rangatiratanga in relation to the subject proposal. He noted that the Hōteao is not just the Awa (river); it is the wider Hōteao catchment that includes headwaters being infilled for the proposed landfill and that the Hōteao flows into the Kaipara, a taonga of Ngāti Whātua and its biggest natural asset. Referring to the CVA he noted that for Te Rūnanga, the closest marae to the application are identified in the CVA produced as part of Te Rūnanga’s evidence,

⁷⁹ The confederated hapū and tribes are listed in the 2008 Deed of Mandate. They include: Ngā Oho, Ngāi Tāhuhu, Ngāti Hinga, Ngāti Mauku, Ngāti Rango, Ngāti Ruinga, Ngāti Torehina, Ngāti Weka, Ngāti Whiti, Patuharakeke, Te Parawhau, Te Popoto, Te Roroa, Te Urioroī, Te Taoū, Te Uri Ngutu, Te Kuihi and Te Uri o Hau.

⁸⁰ Settlement assets are managed by Ngā Maunga Whakahii o Kaipara Development Trust (PSGE), also a submitter opposing the subject proposal and PC 42.

⁸¹ Te Rūnanga o Ngāti Whātua CVA, p. 30

namely Ōruawharo marae of Te Uri o Hau, and Puatahi marae of Ngāti Rongo that is located near the mouth of the Hōteu as it flows into the Kaipara moana.⁸²

403. In terms of the position of Te Rūnanga:

“Te Rūnanga support the mandated representatives of Ngāti Manuhiri and Ngāti Rongo in their opposition to the Dome Valley landfill applications. The Runanga support the many uri, hapū, marae and local communities of Kaipara Moana, in their opposition to the proposed mega landfill. The Rūnanga acknowledge the work of Fight the Tip members and the immense support they have provided to this kaupapa and Ngāti Whātua. They represent a voice supported by Kaipara Moana communities.

The Rūnanga assessment is the proposal will cause irreparable damage to the rights, interests, relationships and values that Ngāti Whātua nui tonu has with their ancestral lands, waters, places and taonga within the Dome Valley area and the wider rohe. This harm, including biodiversity and impacts to waterways and the wellbeing of water (including Te Mana o te Wai) cannot be offset, mitigated or avoided.

The proposal creates unacceptable risks to our taonga waterways, aquifers, Kaipara Moana, hapū, whānau and Marae.”

Ngā Maunga Whakahii o Kaipara Development Trust

404. We heard from Ngā Maunga Whakahii o Kaipara Development Trust (“**Nga Maunga Whakahii**”), the post-settlement governance entity with the mandated responsibility for protecting, growing and managing the assets returned within the Ngāti Whātua o Kaipara Claims Settlement Act 2013, on behalf of the five marae of south Kaipara (Puatahi, Whiti te Rā (Reweti), Ōtakanini (Haranui), Te Kia Ora (Kākānui) and Te Aroha Pā (Araparera)).

405. During their presentation they relied on the evidence of Jane Sherard (trustee), Cherie Povey (trustee), Tumanako Povey (Kaitiaki) and Hemi Tapurau (Kaitiaki). Their submission, presented by Ms Sherard, reaffirmed their original submission, citing their objection to the consents and stated that, “as is our kotahitanga, we are wholly supportive of the korero from those marae trust boards who did submissions, Te Aroha Pā, Ōtakanini Haranui and Puatahi. Equally, to whānau who submitted their own korero.”⁸³ Ms Sherard noted their continued support of the submissions given from the Ngāti Whātua entities over the course of the hearing.

406. Ms Povey, confirmed she also spoke on behalf of Puatahi Marae (“**Puatahi**”) and that Puatahi oppose this application. Acknowledging their responsibility of manaakitanga toward the wider community in their rohe, Ngā Maunga Whakahii reiterated their support of other aligned submissions, namely the community driven Stop-The-Tip, Mahurangi East Residents and Ratepayers Association (“**MERRA**”), Kaipara District Council and Department of Conservation.

⁸² Te Rūnanga o Ngāti Whātua Cultural Values Assessment, 21 October 2020, pp.11-12

⁸³ Opening submission on behalf of Ngā Maunga Whakahii, p.2

Te Aroha Pā Marae

407. We heard from representatives of Te Aroha Pā Marae (“**Te Aroha Pā**”). Mrs Atarangi Edmonds confirmed she represented Te Aroha Pā Marae as the Chairperson of the Marae Trust Board and as the mandated spokesperson to speak on behalf of the hapū of Araparera, Ngāti Rango. She stated that Te Aroha Pā is the tuakana marae of Ngāti Rango with the largest affiliated membership of their hapū and she acknowledged local iwi Te Uri o Hau, Ngāti Manuhiri, Ngāti Rongo and Ngāti Whātua are the guardians of the land, marine and coastal area surrounding the proposed landfill site and encompassing the entire Hōteu River and Kaipara Harbour area.⁸⁴ She was supported by Margaret Tokerangi, trustee for Ngā Maunga Whakahii as marae representative for Araparera.

Ōtakanini Haranui Marae

408. Ms Lynn Marie Te Aniwa Tutara of Haranui Marae Trust Board spoke to us on behalf of the beneficiaries of Ōtakanini Haranui Marae (Ōtakanini Haranui) submission. In their submission, the marae objects to this proposal on the grounds that the potential risk to the safety and sustainability of the Hōteu River, the surrounding lands, fisheries and forests and to the Kaipara Harbour is too great to accept.

Ngāti Whātua Ōrākei

409. **Ngāti Whātua Ōrākei** was represented by Mr Joe Pihema and Mr Andrew Brown in support. Mr Pihema presented his evidence and the submission on behalf of Ngāti Whātua Ōrākei in opposition to the proposal and in support of related hapū who are the ahi kā at Dome Valley namely Ngāti Rango and Te Uri o Hau. Referring to its submission, Mr Pihema explained that Ngāti Whātua Ōrākei also recognises the mana whenua interests of Ngāti Manuhiri and does not claim mana whenua interests at Dome Valley but is submitting in opposition as an expression of its whanaungatanga to those hapū and iwi who hold the mana at that place.⁸⁵
410. Ngāti Whātua Ōrākei recognised that Te Rūnanga is assisting hapū with the submission process and was established to create a unified body representative of the whole of Ngāti Whātua. The submission records that Te Rūnanga Board of Trustees comprise hapū representatives from five takiwā including Ngāti Whātua Ōrākei and that Ngāti Whātua Ōrākei fully supports the position of Te Rūnanga in this matter.⁸⁶

Te Uri o Hau Settlement Trust – Environs Holding Limited

411. Environs Holding Limited, the environmental arm of the Te Uri o Hau Settlement Trust (“**Te Uri o Hau**”) submitted in opposition on the basis that the proposal does not promote sustainable management, results in more than minor effects and had not assessed the relevant cultural effects from all impacted mana whenua and tangata whenua. The submission records that the Trust was formalised under the Te Uri o

⁸⁴ Oral evidence - see Transcript. Submission Te Atarangi Edmonds, Te Aroha Pā Marae, dated 25 May 2020, at p. 390-391, Volume 4.

⁸⁵ Oral evidence and Submission Ngāti Whātua Ōrākei, 26 June 2020, at pp. 644-648, Volume 4.

⁸⁶ Ibid, para 6, p. 644

Hau Settlement Act 2002 and that it is the responsibility of the Trust to provide for the spiritual, cultural, social, economic wellbeing of the beneficiaries. It also notes that Te Uri o Hau is a hapū of Ngāti Whātua with mana whenua statutory areas of interest and territories.⁸⁷

412. We refer to the above submitters throughout this decision either separately or collectively as identified above, or as Mana Whenua to denote all of them where appropriate, for ease of reference in this decision.
413. Mr Bill Kapea and Mr Te Arahi Kapea spoke to their submissions, supported by Koro George Albert. They described their initial reservations and potential opposition to the proposal, which changed to support after gaining a more detailed understanding of the site selection process, and proposed design and operation of the landfill. This better understanding was assisted by their acceptance of an invitation by Waste Management to visit the Kate Valley landfill. Messrs Kapea confirmed that their submissions were provided as individuals, but were guided by their whānau and iwi affiliations and status, and their experience. For Bill Kapea, that experience included cultural engagement with the establishment of the Redvale Landfill, cultural liaison with Ngai Tahu during the development of the Kate Valley landfill, and as a Ngati Rango kaumātua. Te Arahi Kapea spoke of his longstanding involvement as a waste collection contractor, and his familiarity with older style landfills that did not reflect the current best practice now proposed by Waste Management. Messrs Kapea considered that the adverse effects of the landfill could be mitigated to an acceptable level.

15.22.2 Issues raised

414. The collective opposition of the Mana Whenua submitters to the proposal centred on the connection, both spiritual and physical, between the headwaters of tributaries of the Hōteao catchment, Te Awa Hōteao and the Kaipara Moana and their associated whanaungatanga and kaitiakitanga in relation to that environment.
415. They submitted that the significant impact of this proposal is felt in the awa that flow from the application site into the Hōteao catchment and that the proposal would adversely impact Papatūānuku, Mana Whenua, mauri and the related cultural landscape where the proposal is located. As Ngāti Whātua stated,

“It is the position of Ngāti Whātua that the landfill proposal in its current form will cause irreversible damage to Papatūānuku and pose significant ongoing risks to the sustainability and mauri of the Hōteao River, Kaipara Moana, the whenua and the broader environment.”

416. These effects were characterised as more than minor and significant actual and potential adverse effects to their tikanga and relationships with waters, lands and taonga of the Hōteao. These also include biodiversity and ecological impacts to taonga waterways, habitats and species within the subject site and wider unit area.

⁸⁷ Submission Volume 5, Pp. 305-307

417. They further emphasised the effects on future generations impacted by the long- term landfill legacy that would remain when the landfilling is finished.
418. The position of Ngāti Manuhiri and Ngāti Whātua in particular, was that these effects should be avoided, not remedied, mitigated or offset. As stated,

“Furthermore, there would be no amount of offset that could replace this area of significance to mana whenua – reforming our Awa will remove the...mauri and the wairua forever a permanent loss...”⁸⁸

419. This position was supported in submissions and evidence at the hearing by Ngāti Whātua Ōrākei, Te Uri o Hau Settlement Trust, Te Aroha Pā Marae, Ōtakanini Haranui Marae, Puatahi Marae, Tinopai Resource Management Unit, Ngā Maunga Whakahii o Kaipara Development Trust and Te Ohu Kaimoana.⁸⁹
420. Waste Management relied on the evidence of Mr Bill Kapea⁹⁰, a Ngāti Rango kaumatua, RMA hearings commissioner and advisor on matauranga Māori, who was engaged by Waste Management from early 2018, to provide expert advice and assistance on cultural matters. He considered that the views of Mana Whenua stemmed largely from misinformation and a misunderstanding of the application and its actual effects. He stated while there would be some adverse effects, especially on the streams to be reclaimed for the landfill, “some adverse effects are inevitable”. He acknowledged that no one wanted a landfill and accepted the cultural sensitivity of the whenua but was confident that these effects could be appropriately managed through cultural engagement and consent conditions. In this, he distinguished between an activity that might not be culturally appropriate (i.e. landfills in general) versus activities that could, subject to appropriate design and mitigation, be culturally acceptable.
421. In that respect, Mr Kapea identified cultural practices that could be employed to address and restore any loss of mauri including through tikanga practices such as the placement of kōhatu, the erection of pou whenua and provision for an ongoing role for Mana Whenua as kaitiaki through the establishment of a Kaitiaki forum.

15.22.3 Evaluation Approach

422. Understanding cultural values, how those values have been identified, how effects on those values might be manifested and how those effects should properly be considered was a key issue for the Panel.
423. The Panel was assisted by both the legal submissions of Counsel for Waste Management and Counsel for Ngāti Manuhiri and Te Rūnanga in identifying relevant caselaw to consider what might be an appropriate framework within which to discuss these issues.
424. As Counsel for Waste Management highlighted in Opening Submissions, “both Applications require the consideration of a plethora of issues, including a wide range of cultural matters. These include, most directly, those objectives and policies in the

⁸⁸ Te Rūnanga o Ngāti Whātua Cultural Values Assessment, 21 October 2020, p.15.

⁸⁹ Note that similar issues were raised in the submissions of Te Potiki National Trust, Dr. Merata Kawharu

⁹⁰ Provided as expert evidence separate from his personal submission.

AUP specifically directed towards cultural (mana whenua) values, as well as the recognised triumvirate of provisions in Part 2, RMA – ie sections 6(e), 7(a) and 8.”

Understanding cultural values

425. Counsel for Ngāti Manuhiri and Ngāti Whātua submitted that “it is orthodox law, confirmed by a number of RMA authorities, that the environment includes both physical and spiritual dimensions”. This was consistent with the submissions of Counsel for Waste Management acknowledging that any assessment of effects should include both physical and metaphysical / spiritual effects as it is well established that these effects are just as legitimate as other effects to be considered under the RMA. All Counsel cited relevant case law in that regard. We accept and agree with this legal advice and adopt it in our analysis.

How those effects should properly be considered

426. Counsel for Ngāti Manuhiri and Ngāti Whātua referred us to the recent High Court case *Ngāti Maru v Ngāti Whātua Ōrākei*⁹¹ (*‘Ngāti Maru’*) which discussed the ways in which decision makers under the RMA can test the claims regarding tikanga concepts.
427. In the Court’s overview of the legislative and planning context, Whata J. recognised that the RMA is replete with references to kupu Māori, that Parliament plainly anticipated that resource management decision-makers will be able to grasp these concepts and where necessary, apply them in accordance with tikanga Māori. We refer to the Court’s Findings, where it stated⁹²:

*“What can be seen from even a cursory review of that case law over that time span is an evolving understanding and application of mātauranga Māori and tikanga Māori. While tikanga Māori is defined in the RMA as “customary values and practices” it has come to be understood as a body of principles, values and law that is cognisable by the Courts.*¹⁵

[65] The AUP is an apt illustration of the stage reached in this evolution. It defines mana whenua by reference to their ancestral rights and kaitiaki responsibilities. It expressly identifies mana whenua participation in decision-making and integration of mātauranga Māori and tikanga into resource management as of “paramount importance” and seeks to ensure that resource management processes in Auckland are informed by mana whenua perspective, including their values, mātauranga and tikanga. It expressly refers to “mauri”, “wāhi tapu” and “kōrero tuturu”.

[66] The RMA also anticipates that iwi will be involved in policy and plan promulgation and may have delegated to them decision-making functions; that there will be cases where different iwi or hapū may have overlapping areas of interest; and that iwi and hapū with defined customary rights will be specifically provided for where relevant. The Mana Whakahono a Rohe process also enables agreement to be reached about competing iwi claims in respect of

⁹¹ *Ngāti Maru Trust v Ngāti Whātua Ōrākei Whai Maia Ltd* [2020] NZHC 2768

⁹² *Ibid*, at [64]-66], [68]

*overlapping areas of interest. The AUP also recognises the existence of multiple iwi and iwi authorities in Auckland and their respective planning documents. All of this necessarily demands that resource management decision-makers are able to identify, involve and provide for iwi and their mana whenua in accordance with mātauranga Māori and tikanga Māori.*¹⁶

*[68] Nevertheless, the Environment Court is necessarily engaged in a process of ascertainment of tikanga Māori where necessary and relevant to the discharge of express statutory duties.¹⁸ To elaborate, as the Privy Council asseverated in *McQuire*, ss 6(e), 7(a) and 8 contain strong directions that must be observed at every stage of the planning process. Where iwi claim that a particular outcome is required to meet those directions in accordance with tikanga Māori, resource management decision-makers must meaningfully respond to that claim. That duty to meaningfully respond must apply when different iwi make divergent tikanga-based claims as to what is required to meet those obligations. This may involve evidential findings in respect of the applicable tikanga and a choice as to which course of action best discharges the decision-makers statutory duties. To hold otherwise would be to emasculate those directions of their literal and normative potency insofar as concerns iwi.”*

428. Mr Enright noted the concept of tikanga has been given an important emphasis of late, both by the Supreme Court and the CA in the *Trans Tasman Resources* decision. He contended, the Supreme Court is grappling with that in the non-RMA context currently, but Whata J. in the recent *Ngāti Maru* decision has also emphasised the relevance and importance of looking at cultural effects from an RMA perspective as identified through a tikanga process, that decision emphasising the importance of adherence to tikanga.

How those values have been identified and how effects on those values might be manifested

429. Messrs Pou and Enright submitted that the mandated iwi and hapū authorities are specialists in their own tikanga and mātauranga Māori. Therefore, Ngāti Manuhiri and Te Rūnanga are best placed to identify adverse effects caused by the subject proposal to their cultural beliefs and relationships with ancestral lands, waters and taonga. This is captured in RPS Policy B6.2.2 which states:

(1) Provide opportunities for Mana Whenua to actively participate in the sustainable management of natural and physical resources including ancestral lands, water, sites, wāhi tapu and other taonga in a way that does all of the following:

(e) recognises Mana Whenua as specialists in the tikanga of their hapū or iwi and as being best placed to convey their relationship with their ancestral lands, water, sites, wāhi tapu and other taonga;

430. Counsel also referred us to the *Ngāti Whātua Ōrākei* case and the Environment Court’s confirmation of this “specialist” focus by the RPS. They also referenced the High Court’s decision in *Ngāti Maru* (referred to above) which confirmed that decision-

makers have jurisdiction under the RMA to determine competing claims to stronger relationships with the ancestral lands and waters, subject to guiding parameters and relevance to resource management decision-making process (such as consent conditions).

431. Although commenting on the issue in the context of adjudication on divergent claims by more than one iwi claiming mana whenua to a particular outcome, Whata J stated:

“[73] But the statutory obligation to recognise and provide for the relationship of Māori and their culture and traditions with their whenua and tāonga, to have regard to their kaitiakitanga and to take into account the principles of the Treaty of Waitangi, does not permit indifference to the tikanga-based claims of iwi to a particular resource management outcome.²² On the contrary, the obligation “to recognise and provide for” the relationship of Māori and their culture and traditions with their whenua and other tāonga must necessarily involve seeking input from affected iwi about how their relationship, as defined by them in tikanga Māori, is affected by a resource management decision. To ignore or to refuse to adjudicate on divergent iwi claims about their relationship with an affected tāonga (for example) is the antithesis of recognising and providing for them and an abdication of statutory duty.

[74] I am fortified in this view in the present context, given the clear policy of the AUP to require resource management decision-making to be informed by “Mana Whenua” perspective, including their mātauranga Māori and tikanga...”

432. We therefore accept the submission of Messrs Pou and Enright that these matters must be considered through a cultural lens to both identify and understand how the relationship of Ngāti Manuhiri, Ngāti Whātua and other Mana Whenua groups, as defined by them in tikanga Māori, is affected by a resource management decision.

433. In *Ngāti Maru*, Whata J referred to the approach adopted in *Ngāti Hokopu Ki Hokowhitu v Whakatane District Council* and stated that it “is regarded by some leading commentators as a leading authority on the “appropriate metrics for assessing conflicting evidence from within the Māori system.”⁴³ The Court in that case referred to the following methodology for assessing divergent claims about iwi and hapū values and traditions, that is by listening to, reading and examining (amongst other things):

[53] ...

- *whether the values correlate with physical features of the world (places, people);*
- *people’s explanations of their values and their traditions;*
- *whether there is external evidence (e.g. Maori Land Court Minutes) or corroborating information (e.g. waiata, or whakatauki) about the values. By ‘external’ we mean before they become important for a particular issue and (potentially) changed by the value-holders;*

- *the internal consistency of people’s explanations (whether there are contradictions);*
- *the coherence of those values with others;*
- *how widely the beliefs are expressed and held. (footnotes omitted)*

434. We found the submissions from both Mr Matheson, and Messrs Pou and Enright referencing *Ngāti Maru* and this “rule of reason” approach set out by the High Court helpful and consider the direction provided in His Honour’s analysis of Part 2, the relevant Mana Whenua provisions in the AUP and overview of the legislative and planning context particularly instructive and relevant to the matters before us.

435. In following that direction, we accept we must also have at the front of our minds, the facts and context of the matters before us where, as Counsel for Ngāti Manuhiri and Ngāti Whatua submitted, there are no divergent claims, the key Iwi Authorities agree the proposal should be declined, and the plan change refused with relevant cultural effects under tikanga identified by kaumatua evidence called by Ngāti Manuhiri and Ngāti Whātua.

15.22.4 Values set out in the Cultural Values Assessments (CVAs)

The Ngati Manuhiri Cultural Values Assessment (CVA)

436. The Ngati Manuhiri CVA sets out “Ngā Tikanga” - the values and principles which guide their role as kaitiaki, in environmental management:

- Manuhiritanga –our identity and uniqueness as Ngāti Manuhiri, upholding the mana of Ngāti Manuhiri
- Mana Motuhake –active leadership and decision making
- Kaitiakitanga –cultivating a sustainable healthy environment and healthy lifestyle for all people•Kotahitanga –participating together; having open, honest and transparent communication; unity
- Whanaungatanga –through our whakapapa, our identity; knowing our matauranga Ngāti Manuhiri
- Manaakitanga –caring for the environment so that Ngāti Manuhiri can care for the people
- Sustainability –promoting use of environmentally friendly and sustainable practices and materials
- Principle of enhancement –restoration of degraded sites
- Long-term cultural wellbeing –a healthy environment for future generations
- Ki uta, ki tai (mountains to sea) –holistic integrated catchment management.

437. The cultural values in relation to the ARL and how it may or may not affect Ngāti Manuhiri are outlined in terms of:

- Whenua (land)
- Water (wai)
- Hau (air)
- Biodiversity
- Wāhi Tapu and Taonga
- Social, Economic, and Cultural Wellbeing
- Future Management

438. The assessment identifies their concerns in respect of each of those values, regarding the landfill and what they advocate for in terms of managing the effects on each of those values.

Te Rūnanga o Ngāti Whātua Cultural Values Assessment (CVA)

439. The purpose of the Addendum to the CVA is to provide supplementary information and update on the position of Te Rūnanga on the proposal. It states that “Te Rūnanga o Ngāti Whātua will continue to evaluate the impacts of the proposal as more information comes to light. The CVA is a living document, and Te Rūnanga evaluation will evolve as more information and evidence is produced for the RMA processes.”

440. It further states:

“Ngāti Whātua is interested in this application because it was raised with the Board at the 2019 Ngāti Whātua AGM. It is an important issue for hapū and Marae. If the proposal to build a landfill goes ahead it will have immediate and irreparable impacts on Ngāti Whātua nui tonu and its values. (CVA, p. 30)

Te Rūnanga acknowledges Waste Management and the efforts made by them to accommodate Ngāti Whātua. The staff we have dealt with have always been professional in discussions. Unfortunately, no agreement was reached.”

441. It states that Mana Ngāti Whātua, manaakitanga and kaitiakitanga are the three sacred obligations that are incumbent upon Te Rūnanga o Ngāti Whātua. It records that: “These primary values are in the Charter of Te Rūnanga o Ngāti Whātua and they have been there since the Rūnanga was established in legislation in 1988. Everything that the Rūnanga does is filtered through these primary lenses”.

442. The CVA for Te Rūnanga describes the following values:

- Tikanga, Mana, Mana Tūpuna, Tapu, Mauri, Wairua, Whanaungatanga, Rangatiratanga, Kaitiakitanga - Hau, Wai, Whenua, Wetlands; Rāhui, Utu.

443. The Addendum adds that “In considering the landfill applications the Board has identified four key themes that are consistent with the Rūnanga sacred obligations. These themes have been used alongside the core values of the Rūnanga, to assess the alignment or otherwise of the proposals with Ngāti Whātua values.”

“A: Protecting Papatūānuku and Ranginui, which includes the marine and freshwater waterways, fisheries, air and habitat within the rohe of Ngāti Whātua, particularly in the Hōteio. Protecting spiritual and whakapapa associations with the whenua, and te mana o te wai.

B. Exercising rangatiratanga within Ngāti Whātua rohe, and preprotecting Ngāti Whātua customs, traditions, beliefs, property rights and native title rights associated with the Hōteio catchment, Dome Valley, and Kaipara Moana. Rangatiratanga and ,ana motuhake. Alternative waste management sites, methods and options have been adequately considered.

C. Protecting the people and their rights, interests, and obligations to the Atua, physical and spiritual. The pretection of customary rights held by hapū and whanau. The safety of Marae.

D. Safeguarding the mauri and wairua of ancestral lands, waters of the Hōteio, and our taonga, caring for our people, and keeping things in balance.

Impacts on our values should be looked at in two phases, the first phase being the establishment, and operation of the business, and the second phase being the period between the landfill operating and, in the end, reaching its end life. In this second phase there is an ongoing risk posed by leachate finding its way into the Hōteio and ultimately the Kaipara Moana and impacting the environment, fisheries, hapū, whanau and Marae. The risk does not cease once the landfill is full, it continues for as long as there is leachate in the ground. This negatively influences the wairua of our uri.”⁹³

Nga Taonga Tuku Iho, Ngāti Rango CVA

444. In addition to the evidence of representatives of the marae associated with Ngāti Rango as noted above in this section and their representative iwi and hapū authorities, we also have the First Report opposing the proposal, filed by Mr Bill Kapea (“Nga Taonga Tuku Iho”) who confirmed in evidence that that report “is a Ngāti Rango response”. We have therefore had regard to that report to the extent that it may reflect views of members of Ngāti Rango and their mana whenua, not reflected by their representative iwi and hapū authorities or marae, as noted above.
445. Nga Taonga Tuku Iho is an example of a ‘living document’ and describes the following values and kaupapa as they relate to the application:
- tikanga, mātauranga Māori, tangata whenua, Mana Whenua, taha wairua, tapu, hiko (urban migration), kaitiakitanga, te Tiriti o Waitangi.
446. The Nga Taonga Tuku Iho Report compares this application with the Redvale landfill, highlighting the differences they identify between Dairy Flat and the Dome Valley, with particular regard to topography, rainfall and inherent uncertainty in the management of effects. The report considers the proposed site and area through a Māori lens and expresses concern at the current degraded state of the receiving environment with

⁹³ Te Rūnanga o Ngāti Whātua CVA, pp. 31-32

ongoing farming and forestry production and the consequence that the Hōteō and Kaipara will continue to suffer, as do the Tangata Whenua.⁹⁴

447. The Report discusses Ngāti Rango's recognition of the need for a 'Contingency Plan', that while Ngāti Rango have opposed this application they are only too aware of the threats posed from the south with 'Auckland's Growth' and therefore, as a vigilant kaitiaki, while they may feel powerless to stop what's coming, they need to be well prepared when it arrives.⁹⁵

15.22.5 Ancestral relationships, whakapapa, whanaungatanga and associations

448. Ngāti Manuhiri and Ngāti Whātua witnesses explained their history and whakapapa to the ancestral lands and waters affected by this application; they exercise ahi kaa within their respective rohe, including the eastern and western Hōteō catchment. Much of the evidence presented detailed their connection to the site and area and the importance of retaining a clear connection to it (as kaitiaki).
449. Ngāti Manuhiri and Te Rūnanga o Ngāti Whātua (**Te Rūnanga**) relied primarily on the cultural evidence as set out in their respective Cultural Values Assessments and the evidence of their Rangatira, Kaumatua and Kuia to identify their values, relationships and beliefs namely Dame Naida Glavish DNZM, Terrence (Mook) Hohneck, Alan Riwaka, Mikaera Miru, Glen Wilcox and Richard Nahi. They were supported in submissions and evidence by representatives of Te Aroha Pā Marae, Tinopai Resource Management Unit, Ngāti Whātua Ōrākei, Ōtakanini Haranui Marae Trust Board, Te Ohu Kaimoana and Te Uri o Hau. Ngā Maunga Whakahii also reaffirmed their original submission and continued support of the submissions given from the Ngāti Whātua entities.
450. Mr Hohneck, Chairman of Ngāti Manuhiri Settlement Trust and spokesperson for the iwi, referred us to the Ngāti Manuhiri Deed of Settlement and the Agreed Historical Account noting that it, at the time of negotiations with the Crown, had been peer reviewed by both himself and the now late iwi kaumatua rangatira, Laly Haddon, who were both negotiators – clearly a matter of some significance to Ngāti Manuhiri, not lost on members of the Panel. He spoke to relevant parts of the Account and emphasised how pertinent the details in that Account were as to the origins of Ngāti Manuhiri, their evolution as a tribal group, their history and who they are as a people.
451. Mr Hohneck described the enduring relationship and connections Ngāti Manuhiri have with the natural and physical resources in the area. He emphasised the importance of whakapapa, whanaungatanga and identity as between the tribes. He spoke of the shared history - tūpuna, marriages, occupation, *pakanga* – between Ngāti Manuhiri, Ngāti Whatua and Te Uri o Hau.

Ngāti Manuhiri are the descendants of the eponymous ancestor Manuhiri, the eldest son of the Ngāti Awa ki Taranaki warrior chieftain Maki and his wife Rotu. Manuhiri was born at Kawhia in the mid seventeenth century. From this

⁹⁴ Nga Taonga Tuku Iho Report on behalf of Ngāti Rango, Bill Kapea, pp. 33-35

⁹⁵ Nga Taonga Tuku Iho Report on behalf of Ngāti Rango, Bill Kapea, p. 36

whakapapa Ngāti Manuhiri, in their own right through Maki and his sons, have unbroken ties to their ancestral rohe.

452. He explained that it is fundamentally important to understand the old ancestral relationships that Ngāti Manuhiri hold with the land, sea and offshore islands and the ancestral tribal domain. That these relationships were gained both through the ancestral ties held by Maki, Manuhiri's father, within the Tāmaki region and through marriage into earlier iwi who preceded Ngāti Manuhiri in occupying the Kaipara and Mahurangi districts and offshore islands. These combined ancestral relationships, both ancient and more recent, form the basis of a spiritual, cultural and historical relationship that Ngāti Manuhiri hold with places, resources and sites of significance within their ancestral rohe.

453. Mr Hohneck referred to evidence presented in the Native Land Court in 1869 at the Pakiri Block Investigation, by two prominent rangatira, tūpuna Arama Karaka Haututu and Te Kiri Kaiparaoa, and their reference to the descendants of Manuhiri dividing at the Hōteō. In that respect, he explained the significance of the ancestral kōhatu which stand as stones in Te Awa Hōteō, representing the sons of Tuwhakaeketia - Iriwata and Taihamu - and the boundary of Ngāti Manuhiri and Ngāti Whātua. They remain as evidence, connecting Ngāti Manuhiri and their whanaunga to the whenua. He added,

“We have this conversation in and around our pakanga regarding the division of the Hōteō River. It is still within our families, still within our iwi, still within the iwi that are here today. [It] is of fundamental importance to the story of the evolution of Ngāti Manuhiri and Ngāti Whatua as it reflects the emergence of the hapū and sub-tribal groupings within the tribes, so we all know that in our history, how we devolve into other larger natural groupings through time. Ngāti Whatua. Two stones in the Hōteō River, named after two important tūpuna; Taihamu and Iriwata. Two stones. The boundary of the river between Manuhiri and our other relations in the Kaipara. These are the korero that have been cemented in time.”

454. That evidence is corroborated by the Statutory Acknowledgment and Statement of Association over the Hōteō River or Te Awa Hōteō, which recognises the cultural, spiritual, historical and traditional association of Ngāti Manuhiri with Te Awa Hōteō.⁹⁶

455. It is noted that Te Awa Hōteō as identified on deed plan OTS-125-1, does not appear to be limited to the 'spatial extent' of the Hōteō River but also covers the site.

456. The relationship between Ngāti Manuhiri and Ngāti Whatua was also explained in the Cultural Values Assessment of Te Rūnanga and described to us in evidence by Mr Mikaera Miru. It records,

“They were intimately related through both their Ngāti Whātua and Kawerau descent, although their mana related to specific and well defined areas of land.

⁹⁶ Ngāti Manuhiri Deed of Settlement – 21 May 2011, Statement of Association regarding the area known as Te Awa Hoteo or the Hoteo River, as shown on deed plan OTS-125-15; Ngāti Manuhiri Claims Settlement Act 2012

*The southern part of the catchment is the ancestral land of the tribal group known as Ngāti Rango, who still maintain marae at Puatahi, Araparera and Kakanui. The north-western part of the catchment is the ancestral land of the Uri o Hau hapū of Ngāti Whātua, who still maintain marae at Ōruawharo, Ōtamatea, Arapaoa, Pōutō and elsewhere in the northern Kaipara District. The northern and north-eastern part of the Hōteao catchment is the ancestral land of the Ngāti Manuhiri and Uri o Katea. They retain ancestral land at Pakiri and maintain the Omaha marae at Leigh.*⁹⁷

457. We were told that many hapū whakapapa to the Hōteao and its surrounds, that hapū lived in and around the Hōteao catchment, and several hapū lived between the Hōteao mouth right up to the end of the Hōteao Awa. Mr Hohneck referred to Te Kiri Kaiparaoa and his daughter Rahui Te Kiri living on the Hōteao.
458. Ngāti Manuhiri maintain an unbroken connection with their rohe exercising their mana through manuhiritanga in the form of tribal traditions, songs, place names, tūpuna (ancestral rights), urupā (burial grounds) and kaitiakitanga (guardianship and management of cultural and natural resources).
459. Nga Taonga Tuku Iho describes the Ngāti Rango relationship as being defined by tātai, descent lines that date back to the arrival of their ancestral waka Māhuhu which subsequently landed on the shores of the inner Kaipara Moana a few kilometres north west, adjacent to the mouth of the Hōteao. It states that, “The Hōteao is the river and catchment that the proposed landfill drains into and the Kaipara is the recipient of all that flows from it and the spiritual home of the present day Ngāti Whātua. On arrival, those on board Māhuhu discovered that people were already in occupation of these lands and were welcomed ashore by the tangata whenua in residence at that time. The hospitality extended was such, that three rangatira remained in the Kaipara, when the decision for Māhuhu to continue its explorations was reached. A decision not uncommon historically.”⁹⁸
460. The report refers to the fact that Māori were nomadic. Inhabiting sites and places as determined by observing change and effects of the environment they were living in. Ngāti Rango were renowned not only as canoe builders and open water voyagers. They were also fleet of foot covering vast distances along the ridge lines of all the ranges that flank the Kaipara and beyond. The latter traditional practice is very important, because they traversed the ridge lines of the Hōteao seasonally to gain access to the east coast. These man-made tracks were referred to as ara, traditional pathways, the life line of the tangata whenua. Their elevation was strategic as it allowed the users to observe everything that was happening below. Overtime like people these ara acquired mana and wairua that is still present today. The Hōteao catchment has a complex matrix of ridges that allowed foot traffic access to numerous locations and they were well worn and used as late as the 1950s. Their significance relates to the manner in which they were used and what occurred along them. As it wasn’t uncommon for the old people to ask to be left behind in a specific location because it was their time and they had a fondness for that area. It would have been a very hard thing to do, but they did it. They would be rested against a tree or

⁹⁷ Te Rūnanga o Ngāti Whātua CVA, p.11

⁹⁸ Ibid, p. 16

somewhere comfortable, prayers and farewells exchanged and that would be it. The report adds that, “We have people today who can still recall times when they have been in these locations and witnessed elders stopping to acknowledge tūpuna still in residence in the spiritual sense and the proposed landfill gas the potential to affect those traditional relationships.”⁹⁹

461. Mr Kapea also noted that Ngāti Rango were renown for their ability to take the high ground observing the slightest movements below while travelling great distances on foot at speed. He stated,

*“The slopes above the wetlands back then were fully inhabited by the children of Tane Mahuta and acknowledging and maintaining that whakapapa connection sustained our tūpuna.”*¹⁰⁰

15.22.6 The significance of Te Awa Hōteio and the Hōteio catchment

462. We were told that the Hōteio is not just the Awa (river), it is the wider Hōteio catchment that includes the headwaters of tributaries of the Hōteio which are influenced by the application site and some of which are being infilled for the proposed landfill. The catchment, we were informed, takes its name Hōteio, or the calabash, from a specific locality situated beside the Hōteio River, just upstream of the junction with the Kaitoto stream¹⁰¹. Mana Whenua witnesses emphasised the physical, cultural and spiritual significance of the Hōteio to them and submitted that in terms of Te Ao Māori, these three aspects were not separate but one in the same, and therefore the site and this proposal needed to be evaluated in this context. As Mr Hohneck noted, “*We don’t differentiate and separate the Hōteio from the rest of our lands or our awa or our sea, it is all one.*”
463. Te Rūnanga’s Cultural Values Assessment, and Mr Miru in his evidence, explained the areas of significance to Ngāti Whātua:

“All of the hills and ridges in the catchment were named, as were all of the waterways, including even the smallest tributaries. The high points that encircle the Hōteio catchment provided reference points for the local iwi and were important boundary markers. Forming the western edge of the catchment between Te Arai and Wellsford are the high points traditionally known as Pukemiro, Pukenui, Pukemata, Ngāmotu and Hauhanganui. To the west of Wayby are Kikitangeao and Te Mauku Ridge, which extends south to Mt Harriot. Further south overlooking the mouth of the Hōteio River, the catchment is enclosed by fortified hills known as Pukekohuhu and Rangī te pū. Standing in the northeast at the head of the Whangaripo sub-catchment are the hills known as Haukāwa and Tamahunga. At the head of the Waiwhiu sub-catchment is Tohitohi ō Reipae, which is a landmark of importance in the traditions of Te Tai Tokerau (Northland). The catchment to the south are the high points known traditionally as Koihamo (Salts Hill), Paekauri and Te Kohanga. Overlooking the southern side of the Hōteio River mouth is Atuanui,

⁹⁹ Ibid, pp. 17-18

¹⁰¹ Te Rūnanga CVA, p. 12

a landmark of central importance to the identity of Ngāti Rango, hapū of Ngāti Whātua.”

464. Mr Glenn Wilcox related the story of the journey of the ancient and famous Tainui ancestress Reipae who travelled north from the Waikato on a large pouakai or eagle in the company of her sister Reitū, who was seeking the hand of a leading northern chief, Ueoneone. Arriving at Whānga ō Reipae (Whāngarei), Reipae married the leading Ngāi Tāhuhu rangatira, Tāhuhupōtiki. Ngāti Manuhiri are descendants of this union. It is from Reipae that the mountain, *Tohitohi o Reipae* (The Dome), takes its name today, the mountain continues to be a significant landmark to Ngāti Manuhiri and is valued for its ecology including the Waiwhiuwhiu kauri grove.¹⁰²
465. This maunga and others in the area like Pukemomore and Tamahunga, all wāhi tapu and places of cultural and spiritual significance in their own right, were also often places of refuge during times of conflict (e.g. Te Ika ā Ranginui near Kaiwaka). These three maunga were also connected by an overland pathway or “*ara tupuna*.” It is noted that the Ngāti Manuhiri Claims Settlement Act (2012), recognises the iwi’s Statutory Acknowledgement of Tohitohi ō Reipae.¹⁰³ As noted above, Mr Bill Kapea also spoke of historic cultural significance of pathways and observation points throughout the area. He referred to it as, “A relationship of significance that is today underestimated and unrecognisable now that the whenua is veiled in a radiata pine nighty that hardly sustains life outside of its own.”¹⁰⁴
466. As noted in the Ngāti Manuhiri CVA, that Act also highlighted the iwi’s designated area for Right of First Refusal (RFR) which includes land around Tohitohi ō Reipae and the headwaters of the Hōteu.¹⁰⁵
467. The significance of the Hōteu to Ngāti Manuhiri is corroborated by the Statutory Acknowledgment and Statement of Association over the Hōteu River or Te Awa Hōteu, which recognises the cultural, spiritual, historical and traditional association of Ngāti Manuhiri with Te Awa Hōteu.¹⁰⁶
468. As it was described to us:

“Each tributary in the Hōteu catchment has its own name which gave it a unique identity, a mauri or spiritual essence which is still seen by tangata whenua as being of fundamental importance in the management of resources and ancestral connections. Some of the traditional names of these waterways, for example Waiteitei, Whangaripo, Waiwhiu, Awarere, Mangaiti, Mangatu and Huataua reflected their physical qualities. Several such as Waitapu, Anganga Pakaru,

¹⁰² Wilcox, Oral evidence given at the hearing. This association is also recognised and this description provided in Ngāti Manuhiri Deed of Settlement – 21 May 2011, Statement of Association regarding the area known as Tohitohi ō Reipae/The Dome, as shown on deed plan OTS-125-20; Ngāti Manuhiri Claims Settlement Act 2012; see also the Ngāti Manuhiri CVA, p. 15

¹⁰³ Ngāti Manuhiri CVA, pp. 15-16

¹⁰⁴ Statement of Evidence, para 2.15

¹⁰⁵ Ngāti Manuhiri CVA, pp. 18-19

¹⁰⁶ Ngāti Manuhiri Deed of Settlement – 21 May 2011, Statement of Association regarding the area known as Te Awa Hoteu or the Hoteu River, as shown on deed plan OTS-125-15; Ngāti Manuhiri Claims Settlement Act 2012

*Waitoto and Ngārarapapa were named because of their historical and spiritual associations. Others like Waikōwhara, Pikoko and Te Kapu were named because of the resources found within them or their catchment areas.*¹⁰⁷

469. This intricate pattern of place names indicates that the tangata whenua of the area have associations with the waterways of the entire catchment. In referring to the names of the rivers, the maunga and the resources, Richard Nahi linked this to the spiritual associations with the Hōteō River.¹⁰⁸ In his oral evidence he noted that the values and beliefs relating to the landfill issue concern the protection and preservation of sacred waters:

“The spiritual significance and meaning around these names gives substance to the tribes...and how they used these particular resources...if they knew anything about the meaning of these particular names there is a significant reason why it [the landfill] shouldn’t go there. We are just talking about names. We are not talking about significant pā sites or arakai or where these particular areas were but using the Hōteō River as a means to plant their food, to water their plants etc.”

470. Referring to the CVA, Mr Miru also emphasised the importance of “*Wai*” as one of the sustaining elements cherished by Māori and with one of the most important values attributed to water being its versatility, it is limitless in its many values that support the *mauri* and the *wairua* of the Māori world. He noted, “the protection of our *wai* is a cultural tradition that was fought for and is currently managed by way of beliefs, rituals, *rahui*, tikanga and mātauranga Māori.”

471. In her submission, Ms Edmonds considered a more suitable location should be found out of the zone of the waterways and definitely not in the Kaipara Harbour catchment which they deemed to be their food bowl noting that over the years it has suffered enough with the depletion of our kaimoana beds and affecting the practices of our fore-bearers.¹⁰⁹

472. We were told that the kai of an area reflects the mana of the people, in their ability to feed their own people and to provide kai for *manuhiri*. The Hōteō River itself provided a means for hapū to plant and water their gardens. The Hōteō was and still is an important food-gathering area. The Hōteō flows into the Kaipara, the largest natural resource for Ngāti Whātua. It is a taonga and “jewel in the crown”.

473. Mr Bill Kapea acknowledged in his evidence, the historical importance of the Valley system, once known as Whangarepo and loosely translated as the “harbour of wetlands”. In his words:

“Papa’s kidneys functioning as attenuation filters - a symbiotic wetland system that thrived with each species looking after each other. Fully in- tune with

¹⁰⁸ Te Rūnanga CVA, p. 13

¹⁰⁹ Submission, Te Atarangi Edmonds, Te Aroha Pā Marae, dated 25 May 2020, at p. 391 of Volume 4

nature's seasons which assisted migration and hibernation which western science has never understood."¹¹⁰

474. Mr Kapea recalled the movements of the native Parera ducks and the "tuna heke" or migration of eels tumbling down river, signifying when it was about to receive heavy rainfall, referring to them as kaitiaki of these wetlands and waterway systems.
475. Having been born and raised on the shores of the Hōteō with her father, who lived to 101, having lived there all his life, Dame Naida Glavish spoke about her father's deep spiritual connection to the environment there and his clear and intrinsic understanding of the moon cycle and the tides of the Kaipara, knowledge that was not written or held by anyone. Acknowledging Puatahi as her marae, she talked about growing up on the Hōteō, about the plentiful flounder that would come up the Kaipara and into the Hōteō such that they would only have to step just outside the back door, to spear a flounder, cut it and put it straight into the frying pan. It was a normal everyday outing, to be able to gather Kūarū, a soft-shellfish similar to a toheroa that grew in the mud, throw it on the fire and eat it with their fried bread. Her father would venture up the Hōteō in his dingy and return with half a sugar bag of oysters from the manawa. She noted that unfortunately, that is not the case today as the Kaipara and the Hōteō are polluted.
476. She spoke about the potential contamination that occurs as a consequence of the discharge of waste and the reclamation of streams leading to (and likening it to) the death of the body. She referred to the connection between the waterways and the taniwha who are their kaitiaki. As she stated, "They were there before human habitants...and we constantly need to apologise to them for what we are doing to their kaitiakitanga and their environment."

15.22.7 Effects on Papatūānuku and mauri

477. Ngāti Manuhiri and Ngāti Whātua contend that the placement of a landfill within the landscape as described by them, is a "scar on Papatūānuku"¹¹¹ and will result in their diminished relationship with the land, weakened mana, a significant burden for them and future generations, an inability to exercise kaitiakitanga and manaakitanga bringing shame on mana whenua.
478. Dame Naida Glavish spoke to us from a Māori worldview, *te au o te kanohi Māori*, elevating her korero to address the spiritual dimensions related to the more physical aspects of the cultural landscape and presenting the views of Ngāti Whātua, Ngāti Wai and Ngāti Manuhiri in particular within a Māori cultural framework. Her karanga calling to the various taniwha who are the protectors of this area and indeed all the Taitokerau district, demonstrated the deep expertise of this witness and her ability to present within a legal framework the information that we required, while maintaining the cultural integrity of her korero in accordance with tikanga Māori.

¹¹⁰ Kapea, W. Evidence in Chief, p. 7, para 2.10 (18 October 2020)

¹¹¹ Papatūānuku being in the realm of atua, the prime goddess and the embodiment of earth.

479. In describing what occurs to Papatūānuku when a landfill is placed within the whenua, Dame Naida explained:

“We refer to Papatūānuku as the earth mother. If we imagine the earth mother like our own bodies, what happens to our heart, our bladder knows about it. What happens to our liver, our backbone knows about it? So everything that is happening in the whenua, there is a knowledge being transmitted across the whenua that informs Papatūānuku that things are not right. Hence when something is happening, even in the moana, that is impacting the whenua. There is a relationship being formed that actually informs. We know, Papatūānuku knows when the seabirds are all flying inland there is a storm on its way. That is a knowledge base between the two. The preparation begins to happen. So if something is wrong inside our own bodies we know about it regardless of where in the body it is happening. Papatūānuku is no different...”

480. Mr Miru referred to the landfill as a “violation” of the *tapu* and the *mauri* of Papatūānuku within that whole area. He pointed to the *mauri* of the forest, the *mauri* of all the waterways and the *mauri* of the creatures that live within that whole environment and considered it was under threat. As noted in the Te Rūnanga CVA, a most concerning aspect of the proposal for them is the loss of streams and creeks which will include the loss of native habitats, flora and fauna and invertebrates. It adds that all waterways in the site area flow into the Hōteō which flows into the Kaipara and the loss of these valuable taonga will affect the *mauri* of the area.
481. Mr Riwaka considered *mauri* within the context of *mauri* that is buried beneath a whare on a marae, where the *mauri* can be warm or cold. He referred to the stories that relate to their puna, their wai, their waahi tapu and taniwha (Pokopoko) and how these connect them to Ranginui¹¹² and Papatūānuku through whakapapa¹¹³. In his view, “...that would be diminished”, and that “*mauri* will absolutely change to something very, very different.”
482. Mr Bill Kapea, both in his expert statement and personal submission, expressed the opinion that returning paru (waste) to Papatuanuku may be culturally preferable to alternative forms of disposal, such as those that may result in adverse air discharges. In this he expressed an acceptance that waste disposal remains a necessary activity for a period that exceeds the duration of filling available at Redvale. In his words “it’s got to go somewhere”.

15.22.8 Mauri

483. The state of *mauri* and the current vulnerability of the Kaipara and the Hōteō was a consistent theme in the evidence we heard.
484. The CVA for Te Rūnanga explained that all things living, spiritual and inanimate have a *mauri* or life force and that *mauri* is not just physical but spiritual. It states, “Our

¹¹² Ranginui, being in the realm of Atua, the prime god and embodiment of the sky.

¹¹³ *Whakapapa* is the genealogical link between atua and all life.

whakapapa back to the creation and the gods provides us with mana over all things, which in turn requires a deep respect for all things.”¹¹⁴

485. The CVA for Ngāti Manuhiri explained:

“Mauri is the life energy force or unique life essence that gives being and form to all things in the universe. All elements of the natural environment, including people, possess mauri and all forms of life are related. This interconnectedness of all things means that the wellbeing of any part of the environment will directly impact on the wellbeing of the people. The primary objective of Māori environmental management is to protect mauri from desecration and to maintain and restore the integrity of mauri and thus the interconnectedness of all forms of life.”

486. Mr Bill Kapea explained that *one needs to have an understanding of the teachings of our tupuna in order to break down the intent of the terms being used today*. He began by explaining mana from the Māori World View. He noted that mana is divine authority and power bestowed upon a person divinely appointed to an office and delegated to fulfil the functions of that office. This divine choice is confirmed by the elders, and initiated by the tohunga under the traditional consecratory rites (tohi) by which the divine spirit is called down to empower the person with authority (mana) and hau (breath of spirit) and mauri (the life principles).¹¹⁵

487. Mr Kapea noted that mana can also be accorded to locations that a tupuna of mana bestowed his name, and acknowledged that within hapū there are variables where wahine carried the mana halo. He stated that it is also accepted that every-living species has their own mana derived from Io, and with this comes recognition and protection under the mantel of mana, mauri, wairua, tapu and rāhui.

488. Dame Naida Glavish told us that an indication of an unwell *mauri* will indicate itself in unwell people around it. She stated, “People cannot survive in any environment where the *mauri* is depleted. So it will indicate in human beings around it, whether it’s water, rock, trees, birds, humans in their vicinity will get sick.”

489. Dame Naida explained that essentially, because of mauri and the need to protect mauri, a set of laws are created that are enshrined in tikanga which governs how things are to be protected.

490. As Dame Naida Glavish expressed it:

“Māuri has in it an intelligence of knowledge. So if I was to describe a heartbeat, the word in Māori would be manawa. It’s a heartbeat, but manawa is in actual fact the intelligence behind the heart that creates the beat. There’s a difference in terms of the intelligence of Māori and the knowledge of science. So if you talk about the tuna, we know that there is an atua, a supreme being, who is a guardian of the tuna and often it’s the birds that would tell us that the tuna is not ready. The bush tells us when it’s time for harvest in the water. When a particular tree is in full bloom, the bush is

¹¹⁴ Te Rūnanga CVA, p. 17

¹¹⁵ Mr Bill Kapea, Statement of Rebuttal Evidence, 21 December 2020, pp. 2-3 and referencing Reverend Māori Marsden, “The Woven Universe”.

talking to us that it is time to harvest that particular species under the sea. So Tangaroa and Tāne Mahuta are in conference with each other. According to their parents, Papatūānuku the Earth Mother and the Sky Father, Ranginui. We read the environment in its wholesome being.

491. Mr Miru noted the current state of the Hōteio catchment and the impacts that modification has had on native forests, wetlands and associated flora and fauna, much of which had been removed from the Hōteio catchment. He considered the *wairua* of the existing forest, wetlands, flora and fauna needed protecting to ensure the *mauri* of each of those natural resources are sustained for future generations.
492. We heard from Edward Ashby, Senior Kaitiaki for Environs Holdings Limited, the environmental subcommittee for Te Uri o Hau Settlement Trust who described his role and responsibilities which included being responsible for cultural monitoring of resource consents that have been identified, pest control management plans, planting, fences and mātauranga programmes, pre-work site blessings and Kauri die back monitoring. He also sits on the Hōteio Sediment Reductions steering group which, he told us, provided him with great opportunities to walk the Hōteio to survey and monitor.
493. Mr Ashby spoke from a kaitiaki perspective and pointed to the degradation of the *mauri* of the Kaipara Harbour which is already under stress from current land use activities in the catchment such as sand extractors, multiple discharges and land use practices and the importance of the Kaipara Moana Remediation Programme. He highlighted the indicators he uses to understand the *mauri* of the waterways he is charged with the responsibility of as kaitiaki, and demonstrated the holistic view of the Kaipara with its many tributaries in all of its components. He saw approval of the PC as contravening that programme and stated that, “The practice of kaitiakitanga is not for our lifetime, or a generation, nor multiple centuries, it is mai rā ano - for eternity.” He considered that poor planning had led to constraints around his ability to undertake kaitiakitanga.
494. The evidence of Aroha Edmonds on behalf of Araparera Marae emphasised the interconnectedness between people and whenua and the current vulnerability of that environment. She noted that that vulnerability reflects on the people and their state of cultural health. She considered that if the resource is vulnerable, there is an even greater responsibility on kaitiaki.
495. That interconnectedness is also referred to at the outset of the Ngāti Manuhiri CVA:
- “Our values uphold Te Ao Māori (the Māori world view) in that everything is interconnected - reflected in the whakataukī;
- “Toitu te Marae a Tane, Toitu te Marae a Tangaroa, Toitu te iwi” “If the land is well, and the water is well, the people will thrive.”*

15.22.9 Effects on the exercise of Kaitiakitanga

496. The CVA for Te Rūnanga recognises that the roles and responsibilities of kaitiaki, and kaitiakitanga, are significant. It states that in a general sense they are about protecting

and maintaining those things that are important from a Te Ao Ngāti Whātua perspective; and exercising rangatiratanga over tribal resources within the rohe of Ngāti Whātua.

497. Both CVAs explained that kaitiaki have an inherent obligation to protect their mana, tikanga and their natural environment within their rohe for the wellbeing of their tamariki, mokopuna and future generations.

498. The Ngāti Manuhiri CVA recognises that, “Sustaining the mauri of taonga (treasure) whether a resource, species or place, is central to the exercise of kaitiakitanga. Tikanga (custom, protocol) has emerged around this duty bringing with it mātauranga, (knowledge, wisdom) or intimate knowledge and understanding about local environments, and a set of rules that guide our way of life, both spiritual and secular.”

499. Mr Hohneck described the responsibilities and obligations they have as kaitiaki and as the leadership there to represent and speak for Ngāti Mahuhiri, the obligation to put the voice of the people first, stating:

“We have an obligation and a responsibility as Ngāti Manuhiri people to look after all Māori, all community, all people that are visitors to our land – everyone. But first and foremost we must protect who we are as a Māori people.”

500. He acknowledged the potential effect on ‘downstream’ iwi and the aroha, the responsibility that is felt towards both them and their future generations and the “burden” this places on Ngāti Manuhiri. Mr Hohneck stated, “We have an innate responsibility to all of our whanaunga. The source of the Hōteio River, our sacred mountain, Tamahunga starts with us. The water, the tributaries, the *wai māori*, all starts with us. All starts up in our rohe in the catchment.”

501. Mana Whenua witnesses pointed to the spiritual aspects and Mr Pihema stated that, “There’s a spiritual aspect there... it kills that inner spirit of the people to see these types of things come into the environment.”¹¹⁶

502. We heard submissions and evidence regarding the aukati rāhui and understand that in June 2019, Te Uri o Hau Tribal Council representing fourteen Marae (7,000 people) endorsed the placement of an aukati rāhui over the proposed landfill site. This was supported and confirmed at a community meeting of 200 local people. The aukati rāhui was placed during a dawn ceremony on 15th June 2019 and witnessed by over 150 people.¹¹⁷

503. We were told that the aukati rāhui was laid to protect the mauri and wairua of the whole Hōteio catchment, the Kaipara moana and the mana of Te Uri o Hau; Ngāti Whātua tūturu, Ngāti Rango, Te Uri o Katea and Ngāti Manuhiri, who all whakapapa to the Hōteio catchment.

¹¹⁶ Pihema, J., “The consequences are deep and they start with Papatūānuku and from Papatūānuku we go into all the other different natural environments that come from Papatūānuku and Ranginui. What are these cultural consequences?”

¹¹⁷ Submission of Te Atarangi Edmonds, Te Aroha Pā Marae, 25 May 2020

504. Mr Riwaka considered their customary rights and interests relating to the area are compromised by the siting of the landfill there, that their authority, customs and traditions associated with Dome Valley will diminish and that they could not meet the expectations of their people and their obligations to their *atua*. He felt the *rāhui* that had been actioned and supported by Ngāti Whātua, consistent with *tikanga*, would be disrespected. In his view, there is a spiritual or *wairua* side to all things Ngāti Whātua which Waste Management and Auckland Council had not considered or comprehended in their application (in relation to Waste Management) and in their consideration of the applications (in relation to Auckland Council).

15.22.10 Manaakitanga

505. Referring to the CVA for Te Rūnanga, Mr Miru explained that *tikanga* means correct, proper or right: *Tikanga* means the right thing to do according to Māori custom. *Tikanga* embraces a wide range of areas including but is not limited to values, culture and customs, ethics and etiquette; it is also used as a set of controls and methods, plans and reasons and the sustainability of a resource. In his words:

“Manaakitanga enhanced the mana of Ngāti Whātua and all mana whenua and strategically embraced the whanaungatanga between hapū.”

506. There are variations of *tikanga* between the different *iwi*, *hapū* and *marae* and that it is because of *tikanga*'s flexibility (rather than the rule like nature of statutory law) that *tikanga* treated properly is open to meet the needs of today. ¹¹⁸

507. In terms of *manaakitanga*, Mr Riwaka spoke about the broader environment, that water embodies their rights and interests and the reliance of their people on *kai*. With fewer areas from which to collect *kai*, and the size of the *pātaka* diminishing, those rights too have diminished along with the ability to *manaaki* their *iwi*, communities and *manuhiri*.

508. He considered the proposal would result in a less productive area and ecosystem within the Hōteio and Kaipara Moana that can support healthy and sustainable fisheries and that the area could no longer contribute to the natural *pātaka* that sustains their *hapū*, *whānau* and *marae*. With approximately 40% of their people relying upon going down to the rivers, down to the Hōteio and down to the Kaipara to get their *kai*, removing this area from the *pātaka* would have a detrimental impact on a community already struggling to provide for itself.

509. Mr Pihema considered the proposal tramples upon the *tikanga* of their *Atua Māori* and *Tokanga Māori*. Ngāti Whātua Ōrākei state that the area is important to them as *iwi*. Ngāti Whātua *whakapapa* is woven into the *whenua* and the waters that flow from the several tributaries and *puna* to the Hōteio and Kaipara Moana. They say that the Kaipara Moana is the traditional food basket of Ngāti Whātua and now faces its greatest environmental challenge with the landfill proposal – millions of tonnes of Auckland's waste that will end up polluting their harbour.

¹¹⁸ Te Rūnanga CVA,

510. Mr Pihema referred to the Kaipara Moana as the cradle of Ngāti Whātua and considered that as they had been there for 800 years they were particularly invested in the Kaipara. Their interest was in maintaining that cradle and the histories that went with it to ensure that their mokopuna and their mokopuna have places to go back to, have water to collect kaimoana from and swim in.
511. Mr Miru also referred to the impact upon their manaakitanga and how Ngāti Whātua living around the Hōteio Harbour and the Kaipara Moana, are now suffering from the loss of their land and degradation of natural resources and struggling to sustain themselves from their traditional food basket. As Mr Miru explained, “...*given the state of the mauri of the children of Tangaroa within the Hōteio catchment and the Kaipara Moana, Ngāti Whātua’s ability to manaaki the manuhiri, our visitors, with traditional kai has almost become a thing of the past. The Kaipara Moana has traditionally been Ngāti Whātua’s basket of kai and the basket is almost empty.*”
512. Mr Miru talked about the cultural practice of tangihanga for example, already being impacted by the depleted *mauri* of the kaimoana and the challenges whānau face to *manaaki* the *manuhiri* with traditional kai. He noted that silt has *already* covered most of the Kaipara’s *mahinga mataitai*, the food gathering areas where *whānau* were able to in accordance with custom, harvest shellfish. He was concerned that any further depletion of kaimoana, if caused by the proposed landfill, “would be the death knell for Kaipara, Hōteio and traditional manaakitanga.”
513. Ms Tutara spoke about the abundance of fish and shellfish, such as mudflat oysters and pupu, available to them in the Kaipara when they were kids. She noted the amount of pollution that is there and considered the Kaipara is sensitive and already reacting to the impacts of sand dredging and farming. As Ms Tutara stated, “She is already emptying out her kai, her kai is going elsewhere.” The landfill was seen as another stressor on this already vulnerable environment.
514. Mr Taparau on behalf of Ngā Maunga Whakahii described the hurt and loneliness of the ngahere, “because we don’t walk the lands” and the balance that needed to be restored. He presented a powerpoint with pictures taken in the “Tamahungas, where the Hōteio starts” demonstrating what a ngahere can look like, thick and pest free. His vision from Tamahunga to the Hōteio was to keep that balance, to restore it right up to the Harbour.

15.22.11 Mana

515. Mr Riwaka explained to us the background to Te Rūnanga o Ngāti Whātua and the five takiwā they represent. He set out the mission and values of the Rūnanga and his conclusion that the landfill would not be consistent with those values and would challenge the relationship that the Rūnanga is charged with protecting.
516. He highlighted the role of the Rūnanga to support the development of and grow their people, to protect those things that are important to them, to enhance Mana Ngāti Whātua, to develop matauranga and to teach their tamariki and mokopuna about who they are, their identity, and the significance of all of these areas.

517. In Mr Riwaka's view the mana motuhake and rangatiratanga of Ngāti Whātua iwi and hapū, would be disrespected, the ability of Ngāti Whātua nui tonu to be heard and supported is denied and their futures and connections with the whenua are treated as less important than the landfill.
518. Mr Pou also submitted that it was important not to understate how significant it was that the numerous iwi had come together on this kaupapa despite a history of *past* conflict and competing interests in the treaty settlement area. In his submission it was very significant that when you have the numerous iwi coming here to discuss matters, the fact that they are in line with each other on this issue was something that from a cultural perspective, the Panel needed to be fully appreciative of.
519. There was a real emphasis in the evidence on the intergenerational impacts resulting from the long-term landfill legacy that would remain in this environment when the landfilling is finished. For Ngāti Manuhiri and Ngāti Whātua, it was not the effect of a 35 year consent but an ongoing burden and continued risk for successive generations.
520. Dame Naida Glavish also emphasised the consideration that must be given to future generations noting that, "...we are speaking about our livelihood and the livelihood of today's mokopuna and the unborn child. That's where the thinking has to be."
521. Mr Miru referred to the cultural practise of placing the placenta of his children and his *mokopuna* into the whenua in order to maintain their connection with the land and noting that the passing down of knowledge in this way, would ensure they remained connected to the Kaipara and would be the guardians of it into the future. He stated, "It is so important that we have land. Because without land we have no mana. It's like a fish out of water, it's like a bird with nowhere to perch. Land is the most powerful thing, resource, that Māori have. Hence why the whole Kaipara is so important to all of us that live around it."
522. Mr Pihema gave evidence that for Ngāti Whātua Ōrākei, with the bulk of the waste to be deposited in the proposed landfill facility coming from the Auckland urban area where Ngāti Whātua Ōrākei hold ahi kā and mana whenua, the imposition of waste from their rohe on another iwi is culturally offensive because "it degrades the mana of both ourselves and the recipient iwi." He reiterated the feeling of whakamā that Ngāti Manuhiri would be faced with in having to bear the burden of a landfill on their whenua and the risk of downstream consequences.¹¹⁹
523. In terms of the burden on Ngāti Whātua, Mr Pihema considered Ngāti Whātua were also being made to carry the burden again for Tamaki Makaurau. He spoke of the ill consequences of having to carry that burden, particularly for the Māori community, and likened it to the experience of Ngāti Whātua Ōrākei with the sewerage pipe at Ōkahu Bay. He spoke about the burden they felt they had to carry which resulted in the physical disconnection of the people, of the pā, of the village, to Tangaroa coupled with the devastation of kaimoana and the various environmental effects from the discharge of raw sewage out into the harbour. He noted that they are still living with the back end consequences of what happened back in 1914.

¹¹⁹Oral evidence – see transcript and Submission Ngāti Whātua Ōrākei, 26 June 2020, pp. 644-648

524. He acknowledged that unfortunately Auckland does have a lot of waste it needs to get rid of and we need to be better at it, but that we need to find another area and another solution.
525. Mr Pihema referred to ways in which Ōrākei focus on waste minimisation and practise zero waste on their own papakainga with their whānau. He talked about their role as advocates for other communities in relation to waste minimisation and the active connections and education programmes they have in place to promote understanding of that fine balance between being an end user and having to dispose of that waste whilst being that kaitiaki at the other end. To that extent he considered it was up to each and every iwi to live in a more sustainable manner so that their imprint and their footprint in terms of waste is kept to a bare minimum such that they could then stand and speak in forums, with mana and integrity and confirm that they actually do live in a way that is consistent with the values of Te Mana o te Wai, Te Mana o te Whenua, Te Mana o te taiao.
526. Similar in sentiment was Mr Hohneck's evidence: that this is not the first time that Ngāti Manuhiri have had to suffer so that Auckland could benefit and for Ngāti Manuhiri, this is just history repeating itself. In that respect, Mr Hohneck described the way in which their lands were alienated by Māori who were not Ngāti Manuhiri coming on to their lands, walking the whenua and acting as if they were tangata whenua, resulting in Ngāti Manuhiri suffering loss. He referred to the way in which the lands were stripped of Kauri - for the benefit of the new capital at the time, which was Auckland.

15.22.12 Mitigation

527. Mr Hohneck told us that the landfill was always in the wrong place. Mr Hohneck stated "not here" but as Counsel submitted that was not an 'arbitrary' not here. Through the evidence and responses of Mr Kennedy and others, Waste Management told us that Ngāti Manuhiri did engage with them, that they did visit Redvale and the site and did initially profer some possible options for mitigation, which as Ms Brabant points out were included. Mr Hohneck acknowledges there was some constructive engagement but that they couldn't get past that, it did not have the support of Ngāti Manuhiri.
528. Mr Pou submitted that this needed to be considered in the context of the s.6(e) relationship: that by imperilling the mauri and the perception of the mauri, you imperil the tikanga and you imperil the connection that holds them there. He submitted that it is about ensuring a multidimensional discussion about where mana whenua consider might be an appropriate place for a landfill to go, co-designing that from the start and owning the decision to put a landfill there and Ngāti Manuhiri being able to say it is there because we had a discussion with our Ngāti Whātua relations and other relations such as Kawerau ā Maki, that that is where we collectively have decided that that should be.¹²⁰
529. In response to questions from the Panel, Mr Riwaka did not accept that the science that we had heard about over the last two weeks from the applicant could compliment mātauranga Māori to provide either a different or enhanced resolution of

1. ¹²⁰ Oral submissions. See Transcript.

understanding of issues. He did not see them as complimentary because in his words, “they are both set up to do separate things. One is a landfill, the other one is to remediate. I don’t know how you reconcile those things, how you reconcile the *mauri*, how you reconcile all the things that we talked about for the last two days, I don’t know how you can do that.”

530. As Mr Riwaka confirmed, concerns around the ability or inability to take from the *pātaka* centred on both the presence of the landfill there and also that it could no longer contribute to the sustainability of the resources within the *pātaka*. He emphasised that the current remediation programme has allowed them to focus on a strategy and tools to address those existing environmental concerns and *mauri* in a way that works for them. As he stated, “We do not need to be saved”.

531. When asked about the potential benefits of the landfill, the mitigation being offered to reduce sedimentation for example, Mr Pihema responded:

“...whatever be the benefit which has been proposed as part of this, it will always be outweighed by the potential and longer term consequences of the unknown.”

532. Mr Brown noted that there are other ways to achieve the benefits, with plans afoot in the Kaipara catchment in general to try and address the sediment issues, than a landfill proposal. He was concerned about the magnitude of the risk and described it as classic risk management, perhaps very low probability and high consequence risk, against something which is more measurable or more predictable but of lower consequence on the scale of things.

533. When asked whether he saw any changes to the proposal that would make it acceptable, Mr Brown responded that while it was fairly common practice to have a fallback position, in this case the difficulties of the location are fundamental and it would, in his view, be very hard to conceive of a scheme which could overcome them.

534. Mana Whenua did not support the proposed kaitiaki forum as an appropriate form of mitigation in this instance. Further, Mr Carlyon questioned the effectiveness of such forums, it being his experience that they are generally under resourced, under supported and patronising towards tangata whenua interests. Mr Pou submitted that kaitiakitanga reference groups only work if the mana whenua want to be on those kaitiaki reference groups and that “it is not about creating a voyeuristic panel that sits on the side-lines and watches the demise and the decline and becomes criticised for it, but it is actually being able to say, and owning the decision to, put a landfill there and Ngāti Manuhiri being able to say it is there because we had a discussion with our Ngāti Whātua relations and with everybody else...and that is where we collectively decided that that should be.”

535. Mr Bill Kapea did consider various forms of mitigation may be appropriate and acceptable, and expanded on his reasons in response to questions. He considered that every site presents a different set of challenges or a different set of issues to consider when determining whether or not it might be appropriate particularly when assessing the proposal in this “natural” site which doesn’t have a landfill and that it is not easily compared with Redvale, or an existing upgrade of a WW treatment plant.

536. The Taonga Tuku Iho report records that Ngāti Rango are stuck “between a rock and a hard place” and that while they are aware of Auckland’s needs, it is not just this application to be considered but the cumulative effects that have arisen over two decades since their relationship with Waste Management began in consenting Redvale. That report talks about partnership and the possibility for Ngāti Rango of a tuna, eel hatchery on their land near Puatahi, the establishment of a native nursery in the general area and one-for-one forestry restoration mitigation. The Kate Valley Hikoi document illustrates how a CVA is a ‘living document’, and at least for Mr Kapea and his whānau, explains how an appreciation of the Kai Tahu experience at Kate Valley caused him to change his submission to one of support in an effort to ensure they remained ‘at the table’.

537. However, when it was put to him that some of the examples he showed provided evidence of how in other areas, a previously unacceptable activity such as discharging treated wastewater has been upgraded to an extent that it might become acceptable in that context, he disagreed and stated,

“No. It is never acceptable. It’s no more acceptable than putting a landfill like this and putting that paru into Papatuanuku in terms of what you’ve heard, putting wastewater...and you heard this from Ōrakei, putting your teko into the water, whether its treated or not is still not appropriate, don’t care how they treat it, the only trouble is, no choice, so if you’re going to put it in there, clean it up to the best you can.”

538. In delivering his further rebuttal statement Mr Kapea clarified, in response to questions from the Panel as to why he referred to the landfill as ‘palatable’, that,

“We’d rather not have a landfill. No one wants a landfill. But if we’re to have one then we want to make sure that we get a...good one. We know that if we don’t have an alternative, don’t have anywhere to put it, it’s going to go into our rivers. That really concerns us. We’re happy with Redvale and Kate Valley and that’s all we have to go on.”

15.22.13 Planning Responses

Planning evidence for Ngāti Manuhiri and Te Rūnanga

539. Mr Carlyon observed that the tangata whenua values were well articulated to us in the hearing, were clearly not addressed by the application and the attempt to address those values by putting them into a biophysical context fails. In that respect he noted at the hearing that there appears to have been a vacuum of knowledge in relation to Māori rights and interests and Māori values in this catchment, the awa and the connection to the moana and in his view that gap had now been filled.

540. He noted that it was understandable that some may look to resolve those issues in that way, but we have been asked by a number of witnesses to wait until evidence is put before the Panel and those values are clear, and as he heard it there was a very clear position across a number of iwi and other tangata whenua interests that said that the values they hold for this place, for the Kaipara and the awa in general, cannot be addressed through the application as it stands. He considered that there are

outstanding effects on cultural values and it is difficult to contemplate a path that addresses those effects commenting that the values that are felt or held for the Hōteio Awa and the Kaipara cannot be addressed and that there is no way to address challenges of "death of the body".

541. Mr Carlyon considered that it is entirely fair for a very large scale opposition such as this to take an adaptive approach to the development of conditions, but they are inadequate in a number of areas and he would reiterate the view expressed in evidence that leaving the resolution for management of significant adverse effects to management planning beyond the decision to grant the application is unlikely to address the significant adverse effects and he was not supportive of that approach, but recognised that it has become very common place throughout Aotearoa in the last decade.
542. In relation to the kaitiaki forum being proposed by Waste Management, he noted his experience with those is that they are generally under resourced, under supported and patronising towards tangata whenua interests and he stated that in his view, that is because the power and control remains with the consent holder or the authority, that they are very carefully crafted so that the interests that they might express in that forum are taken as advice which can be readily set aside or require nothing more than a response to say why that interest has been set aside. He pointed to his more recent experience with projects that have significant resourcing, but most importantly they give the iwi and hapū involved what he described as the 'nuclear button' which effectively says, if you are genuinely in a relationship with tangata whenua then they will have the power to say 'stop the bus' and the project will halt until the issues they raise are resolved. He considered that more recent experience had been in the context of very respectful relationships and where there is a genuine partnership between the parties.
543. Mr Carylon summarised his opinion in evidence regarding consultation and engagement with Ngāti Whātua and explicitly acknowledged the efforts of the project management team for Waste Management NZ, to accommodate Ngāti Whātua with site visits and provision of documentation for the project, however he also identified that there is a difference between the efforts made to consult and engage and the outcomes specified in Part 2 RMA and the NPS:FM (2020)¹²¹.

Planning evidence for Waste Management

544. In her evidence,¹²² Ms Brabant recognised that while there had been strong opposition to the proposal from the Mana Whenua groups who appeared at the hearing, she found the evidence presented "extremely useful in contextualising and understanding the issues for Mana Whenua and what they see as solutions to the issues raised."¹²³
545. Ms Brabant acknowledged that there was a clear narrative around the importance of both the Hōteio Awa and the Kaipara Moana and the concern that the landfill may cause detriment to these two water bodies. She also acknowledged there was a lot

2. ¹²¹ Greg Carlyon, Summary of introductory comments to the Hearing Panel, p.2

3. ¹²² Andrea Brabant, Second Statement of Rebuttal Evidence, 21 December 2020

¹²³ Ibid, para 3.1

of concern that future generations will be left to deal with any negative outcome of the landfill and that, by allowing the development of the landfill within the rohe, the mana will be diminished.¹²⁴

546. She noted that the importance of the awa and the moana centred on “both their ability to provide for kai and food gathering but also their spiritual importance and their mauri and mana”¹²⁵ and that the history and the korero provided at the hearing by Mana Whenua had clearly set out both their values and their concerns and that it provided further detail to that contained in the various Cultural Values Assessments.¹²⁶
547. In her view, the majority of the concerns raised related to the potential for physical effects. She stated, “As set out through Waste Management’s evidence, the physical effects are being addressed through both the design and operation of the site and by the proposed mitigation, offset and compensation package.”
548. In the applicant’s Reply, Mr Matheson and Ms Brabant spoke to an extensive table of responses she had prepared to address all issues that she had identified to have been raised by Mana Whenua. Mr Matheson emphasised that the table comprises a critical component of the Reply.
549. Ms Brabant considered that Waste Management had proposed a comprehensive set of consent conditions which satisfy the requests set out in that CVA and that the remainder of the concerns related to metaphysical effects. In her view, the description of the intangible concerns set out are not specific to the ARL site and in fact would apply throughout the Auckland rohe due to the importance Māori place on the intrinsic value of the whenua, wai and hau and all of the species that reside within and on the wai and the whenua.¹²⁷ She stated, “It is my interpretation from listening to the mana whenua evidence that no matter what site was selected for the proposed landfill, whether it was this site or another one that formed part of the site selection process, these intrinsic values would be present and there would be some level of intangible effects on the whenua, wai and hau that may not be able to be easily addressed through mitigation, offset or compensation measures.” In this regard we were also provided maps that indicated the extent of the northern part of the region that lies within the Kaipara and Waitemata catchments.
550. Ms Brabant observed that, “Fundamentally, for many mana whenua, it seems that the activity of a landfill, which involves the placement of paru in the whenua, is difficult to reconcile. (On the other hand, I note there was a number of references through the evidence of various mana whenua that they felt Redvale was a suitable site for a landfill and was not degrading cultural values.)”. She then referred to the evidence of Mr Carlyon to the extent it reconfirmed those concerns about “a landfill per se” and noted this was further reinforced through the legal submissions for Te Rūnanga o Ngāti Whātua whereby it was submitted that even if there are no physical effects on the Hōteio Awa and the Kaipara Moana, the Project could still be causing cultural

¹²⁴ Ibid, para 3.2

¹²⁵ Ibid, para 3.2

¹²⁶ Ibid, para 3.3-3.4

¹²⁷ Ibid.

detriment and that the Commissioners can decline an application on the basis of intangible effects.¹²⁸

551. On the basis of the legal advice she had been given, she was of the view that:

“...intangible cultural effects need to be considered and given due weight in determining resource consent applications and I agree that is entirely appropriate from a planning perspective. However, I consider the positions that have been put forward by mana whenua in this hearing regarding the intangible effects of the ARL places the future of a landfill development within the Auckland rohe as a whole in a difficult position. This is because, from a planning perspective, landfills are not prohibited activities anywhere in the Auckland rohe and also are specifically listed and recognised as infrastructure in the AUP.”

552. Ms Brabant was concerned that the approach suggested by Mr Carlyon might, when applied more broadly, cause great difficulty in the consenting and development of many activities in the Auckland context and referred us to the recent northern motorway projects as examples which involve significant physical effects on the whenua and the wai.¹²⁹

553. In her opinion, the expert evidence presented at the hearing from the Applicant but also the Council, has demonstrated that the perceived physical effects on the Hōteō Awa and Kaipara Moana in terms of leachate and sediment are unfounded and will not eventuate at a level that mana whenua (and other submitters) perceive it will. She stated, “On the contrary, in my opinion, the evidence has demonstrated that there is no risk of the kinds of physical adverse effects on the Hōteō Awa and Kaipara Moana eventuating that mana whenua identified they have significant concerns about.” She considered these fears have likely been driven out of a lack of understanding around the technical aspects of the proposal, which she considered was understandable due to the volume and complexity of information. However, she considered that a lack of understanding cannot then result in a proposal having significant adverse cultural effects.¹³⁰

554. Ms Brabant noted that through questioning of mana whenua during the hearing, there was nothing identified about this particular site and Valley 1 specifically that makes it culturally sensitive and that the only real differences noted were the high rainfall as a differentiating physical factor and references to the site being within the Kaipara catchment.¹³¹

555. In concluding, she agreed with the position Mr Ross took on cultural effects that “while there is no doubt that some mana whenua feel that the Project will have significant adverse cultural effects, the reality is these effects may be based on perceived effects to the Hōteō Awa and Kaipara Moana that will not be borne out through physical reality or likely physical consequences of the project.” She considered there was no expert

4. ¹²⁸ Ibid, paras 3.6-3.7

5. ¹²⁹ Ibid, para 3.8-3.9

6. ¹³⁰ Ibid, para 3.10-3.11

7. ¹³¹ Ibid, para 3.12

evidence provided that points to a real physical effect on these resources, other than the unavoidable loss of streams within Valley 1 and that a comprehensive package had been put forward to mitigate, offset and compensate these physical stream loss effects. Further, she noted that there is no expert evidence that there will be any effect on the food resources (or on the ability to safely gather and consume that food), or on the safety of swimming in or otherwise interacting with, either the Hōteō Awa or the Kaipara Moana.¹³²

556. Overall, Ms Brabant concluded:

“I consider this leaves for assessment the spiritual or intangible cultural effects felt by mana whenua. As set out above, these are relevant effects that need to be appropriately considered in assessing the ARL consent applications under the RMA. However, I would agree with Mr Ross that on balance this effect is not of such a degree that the Project is not able to be consistent with the purpose of the RMA, being sustainable management, when considering all components of the application and the broad range and extent of issues and effects that have been considered. Furthermore, I consider it is important to remember that consents can be granted even for applications that may cause significant adverse effects, if on balance the application meets the purpose of the RMA.”

Council’s s.42A review

557. We record that the Council called no evidence in this area on the basis, as Mr Pascoe explained, that persons who hold mana whenua are best placed to identify impacts of any proposal on the physical and cultural environments valued by them.

558. In his s.42A report on the resource consent, Mr Ross recommended decline of the resource consent. He noted that while he could assess the natural and physical effects raised by mana whenua, he could not comment on the specific cultural issues which would need to be evaluated pending further evidence from mana whenua parties. He concluded that it was for these reasons that he did not provide an effects conclusion on cultural values noting his lack of expertise to do so but hoped to be in a position to comment further once all evidence had been presented.¹³³

559. Counsel for Waste Management was critical of this conditional position and noted in legal submissions that while it was not Mr Ross’ role to identify mana whenua values on their behalf, he was obligated to include the values that had been identified by Mana Whenua in his overall assessment and draw a conclusion in that regard.

560. By contrast Mr Enright did not agree and submitted Mr Ross’ approach was appropriate in light of RPS Policy B6 of the AUP which, in his submission, is clear that it is for mana whenua to identify their values and relationships.

8. ¹³² Ibid, para 3.13

9. ¹³³ S42A RC – M. Ross, Executive summary, pp.11 & 77

561. Despite not being able to reach a view on the relevant mana whenua provisions in the AUP, Mr Ross nevertheless concluded that the proposal would meet the objective and policy test of s104D stating:

“However, it will be inconsistent with (but not contrary to) those relating to the protection of ecological and biodiversity values in terrestrial and freshwater systems from the adverse effects of development and potentially those that relate to the interests, values and customary rights of Mana Whenua in the sustainable management of natural and physical resources and the protection of cultural landscapes of significance to Mana Whenua.”¹³⁴

Council’s s.42A reply

562. In presenting his s.42A reply¹³⁵, Mr Ross acknowledged that he had struggled to assess the Mana Whenua issues in light of the evidence heard from Mana Whenua and acknowledged that it had been very very challenging. He began his oral statement by noting that he was now in a position whereby he was comfortable with all the physical effects, including freshwater and terrestrial issues, but that it came down to the Mana Whenua issues and how they, “balanced out” with the other effects.

563. He stated:

“Adverse effects on cultural values have been very challenging to assess, particularly given the numerous submissions received from Mana Whenua. As confirmed during the hearing, and particularly those days held at Ngāti Manuhiri’s head office, the collective position of Ngāti Manuhiri, Te Runanga o Ngāti Whatua, and a number of other Mana Whenua groups, is emphatic opposition. They state that the landfill is in the wrong place, with the low probability, high impact risk of the landfill, particularly with respect to water quality, sitting with Mana Whenua and being an intergenerational burden.”¹³⁶

564. Mr Ross then referred to his conclusions on what he termed ‘measurable physical effects’. He considered that the loss of waterways would be suitably addressed by the comprehensive ecological effects management package proposed by Waste Management. In respect of risk, he agreed with the legal submissions from Ngāti Manuhiri and Ngāti Whātua that where cultural values are high, there should be a corresponding low tolerance for risk. He noted the comments within Waste Management’s legal submissions that if the risk of potential adverse effects occurring cannot be established on the balance of probabilities (noting the combination of elements required for such effects to occur), then that effect should be disregarded.

565. Mr Ross concluded that the comprehensive measures proposed by Waste Management to address adverse effects from contaminants, including sediment and leachate on Te Awa Hōteu and Kaipara Moana, are such that on the balance of probabilities, associated risks are at a level that could be disregarded. If not

¹³⁴ Ibid at p. 11

¹³⁵ Council Planning Officer’s Reply, RC, M. Ross, 18 December 2020 (both the oral presentation and the later filed written statement are reflected here).

¹³⁶ Ibid,

disregarded, he considered that they would be compatible with the 'low tolerance for risk' highlighted by Counsel for Ngāti Manuhiri and Te Rūnanga o Ngāti Whātua.

566. Mr Ross accepted "unequivocally that the presence of the landfill within Ngāti Manuhiri's rohe, and the perception that adverse effects from leachate and contaminants on the environment (particularly Te Awa o Hoteo and Kaipara Moana) is in and of itself an adverse intangible, spiritual effect". He stated,

"The evidence presented on behalf of Mana Whenua was very clear on this and he did not refute it. Indeed, it would be inappropriate for me to do so given than (sic) only Mana Whenua can speak to Mana Whenua values."

567. Mr Ross then noted that Mr Bill Kapea had provided some counter views to those presented by all other Mana Whenua but that there are protocols within Maoridom as to who can speak on behalf of others within Iwi and Hapu groups. To that extent he added,

"Again, I do not intend to qualify this, but simply note that an alternative view was presented both in the form of evidence for WMNZ and as a submission.

To try and qualify intangible, spiritual effects, I can only do this in comparison to other similar consents and associated adverse effects."

568. Mr Ross then discussed his involvement in consenting the Wellsford Wastewater Treatment Plant, which is located in close proximity to the proposed landfill and allowed for the discharge of treated wastewater to Te Awa o Hoteo and explained how Ngāti Manuhiri engagement in that process had somewhat assisted in his consideration of the current proposal.

569. He concluded:

"Given these qualifiers, the alternative views presented by Mr Kapea, and my assessment that the tangible, physical effects, particular on water quality, are suitably addressed and have a low risk of occurring, I do not consider that intangible, spiritual effects are at a level where, on balance, the overall conclusion would be that adverse effects are unacceptable. Accordingly, noting the level of consultation that WMNZ has undertaken with Mana Whenua (and that they remain open to further consultation) and that conditions are proposed to manage cultural effects (the formation and operation of a Mana Whenua Collaboration Group), I consider that, overall, adverse cultural effects will be mitigated to acceptable levels.

570. In response to questions from the Panel, when asked whether he would put the cultural effects in the "more than minor", Mr Ross confirmed, "The intangible cultural effects, I think, without doubt."

571. In terms of Part 2, when asked why he had not circled back to Part 2 he said that he had initially drafted an assessment on Part 2 but then removed it after 'the reviewer' advised him not to because he was told it only applies to things that haven't gone through the AUP which was the NPS, so he removed it and only covered a discussion

on the NPS. He noted that he “was of the understanding that Part 2 is irrelevant in terms of the assessment of this application other than as it applies to the NPS because that hasn’t gone through the process of being worked into the AUP. Had that gone through the process, then my understanding is that Part 2 wouldn’t have been considered at all in terms of the decision making process.”

572. Mr Ross accepted that in drawing his conclusion regarding mana whenua and risk, and referring to the submission of Mr Enright at para 56, that awareness of a risk can be an adverse impact on cultural belief systems and that perception is an adverse intangible, spiritual effect, he had struggled to assess that and had tied his conclusion back to physical effects. He added that there is a definite link back to physical and that had there been an associated physical effect, his conclusions regarding risk may have been different and “he would not be in the position I am now”.
573. Mr Ross agreed that we had heard sufficient evidence that there had been a direct adverse cultural effect on intangible beliefs, such as that related to the impact on taonga, and that we had heard sufficient evidence that that then results in a physical disconnection of mana whenua to that taonga. He added that in terms of the way the evidence had been put forward in those three days at Ngāti Manuhiri, “I definitely think there is, and I think it ties back into the fact that they will feel shame and the fact that shame may then permeate out into an effect in the way that people use the Hōteio and the Kaipara. But I can’t quantify that to a level that for me would override everything else.”
574. We note, as Mr Ross and Ms Brabant commented, the inherent difficulties for those less familiar with them, in understanding and applying Māori concepts. Those concepts before us include whanaungatanga, whakapapa, Mana Motuhake, mauri, wairua, tapu, manaakitanga and kaitiakitanga. The customary understanding of these concepts was reflected in the Cultural Values Assessments of Ngāti Manuhiri and Te Rūnanga o Ngāti Whātua and in the evidence provided to us on behalf of the Mana Whenua groups.
575. We acknowledge that in their evidence at the hearing and in speaking to their planning assessments, both Mr Ross and Ms Brabant have sought to understand and respond to those concepts.

15.22.14 FINDINGS

576. As the High Court noted in Ngāti Maru “...the obligation “to recognise and provide for” the relationship of Māori and their culture and traditions with their whenua and other tāonga must necessarily involve seeking input from affected iwi about how their relationship, as defined by them in tikanga Māori, is affected by a resource management decision.
577. We acknowledge Mr Pou’s submission that we should not understate how significant it was that the numerous iwi had come together on this kaupapa despite a history of past conflict and competing interests in the treaty settlement area. In his submission it was very significant that when you have the numerous iwi coming here to discuss matters, the fact that they are in line with each other on this issue was something that from a cultural perspective, the Panel needed to be fully appreciative of.

578. The collective position of Ngāti Manuhiri and Ngāti Whātua as supported by their Cultural Values Assessments, evidence and submissions provided to us clearly described their values, their traditions and associations with Te Awa Hōteho, the broader landscape surrounding the landfill, and the Kaipara Moana.
579. They articulated in accordance with tikanga Māori, the context of the site within what they describe as a cultural landscape. Consistent with their principles of ki uta ki tai they emphasised their relationship to the maunga, awa, moana, wai, whenua and taonga both within and surrounding the proposed site.
580. Waste Management and the Panel acknowledge that places and sites of importance to Māori can hold both physical and metaphysical components and the importance of those places and sites is not premised upon or restricted to tangible/physical evidence, but can be supplemented by it. It is the association of tangata whenua that is relevant.
581. The submissions received from Mana Whenua on the significance of the whenua, awa and moana were profound. We have assessed the proposal against the significant weight of those submissions and have been assisted by counsel and experts for Mana Whenua, the applicant and Council.
582. We were struck by the collective and deep connections that Mana Whenua have to the Hōteho and Kaipara, and their concern over the decline of this resource, as well as the values related to the wider environment, including that which lies below Tohitohi ō Reipae, Pukemomore, Tamahunga and other maunga.
583. We accept the evidence presented on the interrelationships between physical and spiritual effects. Adverse cultural effects do not just arise from physical effects, yet it is changes to the physical environment that we must assess, which does incorporate those interrelationships.
584. We have to take the evidence presented on cultural values and consider this through the framework of the AUP, which we address in later sections of this report. We must also acknowledge that common positions may incorporate subtleties of difference, and that all submissions and evidence must be given due weight.
585. The dominant matters presented to us, not listed with priority, were:
- a. the impact of the landfill on downstream environments, including the mauri and wairua of those environments. In particular, risk and uncertainty regarding effects on the values of those environments, which include access to and use of as a cultural resource;
 - b. ecological effects, including the adequacy of assessments and uncertainty of effects, the adequacy of offsets and compensation, and the likelihood of achieving those outcomes.
 - c. direct diminishment of mauri and wairua through removal of freshwater habitat and species; and
 - d. placement of paru into Papatuanuku; and

- e. the overall impact on peoples' cultural wellbeing.
586. As we have noted, when asked about the potential benefits of the landfill, Mr Pihema responded that "...*whatever be the benefit which has been proposed as part of this, it will always be outweighed by the potential and longer term consequences of the unknown.*" However, our findings described earlier are that the proposal has now evolved to the stage that the risk of physical, measurable adverse effects from the operation of the landfill are sufficiently understood and are very low. Consequently, while we do not disregard any such effect, we are satisfied that those effects are sufficiently insignificant. We agree with Mr Ross and the applicant that they would be compatible with the 'low tolerance for risk' highlighted by Counsel for Ngāti Manuhiri and Te Rūnanga o Ngāti Whātua.
587. In making this finding we are not blind to the impact of such effects on people's relationship with their environment and their behaviour. Some submitters have expressed concern that Mana Whenua will be disinclined to utilise existing resources or continue with existing activities i.e. contact recreation within, and food gathering from, the Hoteo and Kaipara. We acknowledge the relevance of those submissions. But we find that people who do continue with existing activities within those environments will not be harmed by discharges from the landfill. Nor will the landfill result in accelerated degradation of those environments. Rather, with the implementation of the proposed offset and compensation, it may contribute to the improvement of those environments.
588. The evidence before us (uncontested) is that leachate escape and with it, adverse effects on the Awa and Moana, is at the remote end of possibilities. While this level of risk may be perceived as intolerable, there is no basis in the AUP or the RMA to adopt a 'no-risk' stance. The burden of that residual risk may fall unequally upon people and communities, but that is the nature of the community that we all live in – costs and benefits can and do fall unevenly. On this point we accept that it will not be just Mana Whenua who may not be consoled by this finding. We also acknowledge the submission of Mr Pihema with respect to the burden felt by Ngāti Whātua in accommodating such infrastructure for Tāmaki Makaurau and that by Mr Hohneck on the responsibility that may be felt in accommodating such a facility within the Ngāti Manuhiri rohe.
589. We accept that the loss of stream habitat cannot be fully off-set in a cultural sense, but we have found that sufficient steps will be taken to off-set the loss of habitat at least in an ecological sense, in accordance with the AUP policy. There will be cultural effects remaining, but the nature and extent of ecological off-set must go some way to assuaging the nature and extent of 'intangible' cultural effects.
590. We must accept that the placement of parū into Papatuanuku is offensive. Mr Bill Kapea acknowledged that it is not 'acceptable'. Mr Miru described it as "violation" of the *tapu* and the *mauri* of Papatūānuku within that whole area. But the AUP recognises in its support for municipal landfills as infrastructure that there is a wider social need for landfills, however offensive landfills may be. Mr Kapea noted that given the current necessity of waste disposal, such placement can, in his opinion, be adequately mitigated. In referencing this view, we do not imply that Mr Kapea speaks for others or that we need to favour one opinion over another. But while many

submitters reasoned that a new landfill is not required, we did not receive evidence supporting that view.

591. Nor do we align the proposal with previous (and in some cases existing but diminishing) land use practices that are now recognised as harmful to Te Awa o Hotoe and Kaipara Moana. As we find earlier, the proposal has the potential to complement the programmes and initiatives now underway or proposed to remediate those effects.
592. Mr Hohneck provided very direct and strong statements on the inappropriateness of the specific site proposed for the landfill, that is “not here”. This statement is one of significant moment and is understood. Our decision on this residual matter of the specific site proposed and its spiritual or ‘intangible’ elements has not been an easy one. But we have also heard that those elements are interwoven with the wider cultural landscape. Encompassing our reasons described throughout this Decision, our balanced appraisal within the framework of the AUP does not lead us to a position of refusing the proposal in light of the interrelationship of matters that we have been presented with through Te Ao Maori.
593. Our findings are that, collectively cultural effects are more than minor and for many submitters, are significant. But we are not able to find that cultural effects in contention are significant enough to invoke the related avoid policy that we later address.

16. RELEVANT STANDARDS, POLICY STATEMENTS AND PLANS

16.1 INTRODUCTION

594. A number of environmental standards, policy statements and plans are engaged for consideration when assessing and determining application. By reference to the AEE and the s.42A reports, the RMA requires us to have regard to relevant provisions of the following documents:
- National Environmental Standards for Air Quality (**NES-AQ**), Freshwater (**NES-FW 2020**) Assessing and Managing Contaminants in Soil to Protect Human Health (**NES-CS**), Electricity Transmission Activities (**NES-ET**) and Plantation Forestry (**NES-PF**)¹³⁷;
 - Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 – s104(1)(b)(ii)
 - National Policy Statements on Freshwater Management (**NPS:FM**), Urban Development (**NPS:UD**), Renewable Electricity Generation (**NPS:REG**) and Electricity Transmission (**NPS:ET**);
 - The New Zealand Coastal Policy Statement 2010 (**NZCPS**);

¹³⁷ For the reasons set out at sections 13.4.2.4 to 13.4.2.6. of the AEE and pp. 81-82 of the s.42A Report, we do not consider that the NES for Contaminated Soils or Electricity Transmission are relevant to our consideration of the Proposal.

- The Wildlife Act 1953
- The Waste Minimisation Act 2008
- The Auckland Regional Policy Statement 2016 (Chapter B of the AUP) (**RPS**), in particular:
 - B2 Urban growth and form (2.2, 2.3,)
 - B3 Infrastructure, Transport and Energy (3.2, 3.4)
 - B6 Mana Whenua (6.2, 6.3, 6.5)
 - B7 Natural resources (7.3, 7.4, 7.5)
 - B8 Coastal Environment (8.2, 8.3)
 - B9 Rural Environment (9.2)
 - B10 Environmental Risk (10.2)
- The AUP, in particular:
 - C1 General rules
 - D4 Natural Stream Management Areas Overlay
 - D8 Wetland Management Areas Overlay
 - D9 Significant Ecological Areas Overlay
 - D10 Outstanding Natural Landscapes Overlay
 - E1 Water Quality and Integrated Management
 - E2. Water Quantity, Allocation and Use
 - E3. Lakes, Rivers, Streams and Wetlands
 - E11. Land disturbance – Regional
 - E12. Land Disturbance – District
 - E13. Cleanfills, Managed Fills and Landfills
 - E14. Air Quality
 - E15. Vegetation Management and Biodiversity
 - E24. Lighting
 - E25. Noise and Vibration
 - E26. Infrastructure
 - E27. Transport
 - E33. Industrial and trade activities
 - E36. Natural Hazards and Flooding
 - H19. Rural Zones

- Designation –9101, Taupaki to Topuni Gas Pipeline, First Gas Limited
Designation –6500, Petroleum Pipeline –Rural Sections –New Zealand Refining Company Limited
- Designation –6763, State Highway 1: Puhoi to Topuni, New Zealand Transport Agency

595. We record that we have reviewed all of these standards, policy and plan provisions in our consideration of the application.

16.2 ANALYSIS

596. We have provided an analysis of effects and will rely on that for our s.104D(1)(a) conclusion later, reiterating that for that conclusion, we will not rely on any proposed offset or compensation benefits discussed above.

597. In this section we address the key objectives and policies that were in contention in the assessment of the resource consent application. The planning evidence we received provided an extensive assessment against all relevant objectives and policies. Here we concentrate on those matters where there was significant divergent opinion as to how we should interpret relevant policies.

598. The discussion in this section is an input into two assessments we must make:

- a. The first is under s.104D(1)(b), that is whether the application is for an activity that will not be contrary to the objectives and policies of the relevant plan. The relevant plan is the AUP, but not the Regional Policy Statement component of this combined plan.
- b. The second assessment is under s.104(1), if the first test is met. In this assessment we must have regard to the AUP including the RPS section.

599. Our primary focus is on regional and district level objectives and policies, as those are the only provisions relevant to the 104D assessment. We also accept that as the AUP has recently been prepared as a vertically integrated plan, then it is reasonable to assume that these policies have given effect to higher order documents like the Regional Policy Statement (RPS) and the New Zealand Coastal Policy Statement. Where necessary we have referred to the RPS and the NPS:FM. We do so while noting that the RPS is only one of the considerations to be taken into account in deciding whether to grant consent. It is not determinative.

16.2.1 Relevant objectives and policies in contention in relation to s.104D RMA

600. Six important sets of objectives and policies that relate specifically to the establishment and operation of the landfill that were in contention are:

- Landfill discharges (Chapter E13)
- Stream reclamation (E3)

- Diversion and discharge of stormwater (E1 and E8)
- Sediment discharges (E11 and E12)
- Biodiversity (E15)
- Landfills as infrastructure (E26)

16.2.2 Chapter E13: Landfill discharges

601. Chapter E13 covers cleanfills, managed fills and landfills.

602. E13.2. Objectives [rp] are as follows:

(1) Cleanfills, managed fills and landfills are sited, designed and operated so that adverse effects on the environment, are avoided, remedied or mitigated.

(2) Human health is protected from the adverse effects of operational or closed cleanfills, managed fills and landfills.

603. Policies address:

(1) Avoid significant adverse effects and remedy or mitigate other adverse effects of landfills on lakes, rivers, streams, wetlands, groundwater and the coastal marine area.

(2) Require landfills to be sited, and where appropriate, designed and constructed, to avoid the risk of land instability.

(3) Require cleanfills, managed fills and landfills to be designed and operated in accordance with relevant industry best practice.

(4) Avoid adverse effects from new landfills.

604. Policy 4 drew considerable attention during the hearing due to its directive approach. The applicant contended that the policy needed to be read within the context of the chapter, which in their view was squarely focused on managing discharges from landfills. The applicant also stressed that in terms of these discharges (such as leachate, gas and odours), there would be no adverse effects. Mr Ross considered that Policy 4 was inconsistent with the higher order objectives and was akin to drafting error, but he agreed that Policy 4 needed to be interpreted in relation to discharges only.

605. In support of this interpretation, the applicant and Council pointed to the narrow range of activities addressed by the chapter. Table E13.4.1 Activity table is described as specifying the activity status of discharges from cleanfills, managed fills and landfills pursuant to s.15 of the RMA.

606. Activities A9 and A10 refer to discharges from new and operative landfills. The activities listed in the Chapter do not extend to other potential effects of landfills, like landscape effects or transport effects.

607. We also note that the objectives and policies both have an ‘(rp)’ notation. As explained in Chapter A of the AUP, the Plan is a combined plan under s.80 of the RMA. The objectives and policies for the different plans required by the RMA – regional coastal plan, regional plan and district plan – are identified using the tags “[rcp]”, “[rp]” or “[dp]” (or any relevant combination of these). Chapter 13 is therefore directed at regional plan matters. Section 63 of the RMA describes the purpose of regional plans to be the preparation, implementation, and administration of regional plans to assist a regional council to carry out any of its functions in order to achieve the purpose of this Act. In turn, section 30 sets out the functions of regional councils, which includes the control of discharges to land, air and water.
608. Furthermore, it is apparent to us that Policy 4’s avoidance stance is closely tied to Objective 2. Namely that human health is protected, which is a matter related to discharges. Objective 1 refers more broadly to avoidance, remediation or mitigation of adverse effects on the environment.
609. We are therefore satisfied that E13 relates to discharges from the landfill itself, and that a primary issue is the potential impact of these discharges on ecology and human health.
610. Based on our findings as to effects, we are also satisfied that Policy 4 can be met. We further note that the landfill design follows best practice, while land stability issues are present but can be remediated. Significant adverse effects on the environment are avoided.

16.2.3 Chapter E3 Streams

611. Chapter E3 covers lakes, rivers, streams and wetlands. This chapter is relevant to the proposal to infill the stream in valley 1 and to reclaim two small wetland areas associated with the stockpile area and bin exchange area.
612. A range of objectives are set out that have a strongly ‘protective’ element to them. For example:
- (1) Auckland’s lakes, rivers, streams and wetlands with high natural values are protected from degradation and permanent loss.*
613. Objective 6 seeks to avoid reclamation of streams, as follows:
- (6) Reclamation and drainage of the bed of a lake, river, stream and wetland is avoided, unless there is no practicable alternative.*
614. Policy 5 states that significant adverse effects of activities in, on, under or over the beds of lakes, rivers, streams or wetlands on:
- (a) the mauri of the freshwater environment; and*
- (b) Mana Whenua values in relation to the freshwater environment*
- should be avoided and other adverse effects mitigated or remediated.

615. Under the heading 'Reclamation and drainage' Policy (13) states:

Avoid the reclamation and drainage of the bed of lakes, rivers, streams and wetlands, including any extension to existing reclamations or drained areas unless all of the following apply:

- (a) *there is no practicable alternative method for undertaking the activity outside the lake, river, stream or wetland;*
- (b) *for lakes, permanent rivers and streams, and wetlands the activity is required for any of the following:*
 - (i) *as part of an activity designed to restore or enhance the natural values of any lake, river, stream or wetland, any adjacent area of indigenous vegetation or habitats of indigenous fauna;*
 - (ii) *for the operation, use, maintenance, repair, development or upgrade of infrastructure; or*
 - (iii) *to undertake mineral extraction activities; and*
- (c) *the activity avoids significant adverse effects and avoids, remedies or mitigates other adverse effects on Mana Whenua values associated with freshwater resources, including wāhi tapu, wāhi taonga and mahinga kai.*

616. In addition to the above policy, the NPS-FM has required that the following policy be added to the Chapter (which was done so by the Council during the course of the hearing):

Rivers (18)

The loss of river extent and values is avoided, unless the council is satisfied:

- (a) *that there is a functional need for the activity in that location; and*
- (b) *the effects of the activity are managed by applying the effects management hierarchy.*

617. The effects management hierarchy is set out in the NPS:FM is as follows:

effects management hierarchy, in relation to natural inland wetlands and rivers, means an approach to managing the adverse effects of an activity on the extent or values of a wetland or river (including cumulative effects and loss of potential value) that requires that:

- (a) *adverse effects are avoided where practicable; and*
- (b) *where adverse effects cannot be avoided, they are minimised where practicable; and*
- (c) *where adverse effects cannot be minimised, they are remedied where practicable; and*

(d) where more than minor residual adverse effects cannot be avoided, minimised, or remedied, aquatic offsetting is provided where possible; and

(e) if aquatic offsetting of more than minor residual adverse effects is not possible, aquatic compensation is provided; and

(f) if aquatic compensation is not appropriate, the activity itself is avoided.

618. This policy and effects management hierarchy sits under the following objective of the NPS-FM:

Objective (1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:

(a) first, the health and well-being of water bodies and freshwater ecosystems

(b) second, the health needs of people (such as drinking water)

(c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

619. We note that the two sets of objectives and policies (AUP via Policy 13 and NPS-FM via new Policy 18) are not totally consistent. This may be resolved in the future as the NPS-FM is implemented through changes to the RPS. In the interim, we have to consider both sets of objectives and policies.

620. The two most relevant policies relating to reclamation of streams overlap to an extent, with both policies recognising the need for infrastructure in some circumstances to reclaim streams. They do not completely match as to the 'tests' as to in what circumstances reclamation is appropriate or not.

621. In particular, the AUP policy states that streams should only be infilled where no practicable alternative exists while the NPS-FM refers to whether there is a functional need to infill a stream.

622. Furthermore, the AUP refers to significant adverse effects of necessary infrastructure on cultural values are to be avoided. The NPS-FM policy appears to have a more 'lenient' test in its effects management hierarchy of avoiding adverse effects of infrastructure 'where practicable'.

623. The significant effects on Mana Whenua values that are to be avoided are not identified in an exhaustive manner by the AUP. The policy refers to wāhi tapu, wāhi taonga and mahinga kai. The NPS-FM arguably requires a wider set of cultural values to be taken into account with its reference in Policy 1 that freshwater is to be managed in a way that gives effect to Te Mana o te Wai, but somewhat curiously places 'cultural well being' as a third priority after human health and eco system functioning.

624. Both sets of policies could be said to require off-setting of residual effects, that is effects that cannot be avoided, remedied or mitigated. The AUP does not state that off-setting must result in no net loss in values. The NPS-FM is explicit that off-setting must result in no-net loss and preferably a net gain.

625. However, we note here that the applicant has offered a 'no-net loss of ecological function' approach. Based on our findings which agree with the applicant's stated quantum of offsets and compensation, we do not need to take this particular point further.

626. Putting the two policies together, we see the task as determining:

- a. Is the landfill infrastructure that has a functional need to reclaim the stream in valley 1?
- b. Are there any practicable alternatives to stream infilling?
- c. Does the activity take steps to avoid the loss of stream habitat?
- d. Does the activity avoid significant adverse effects where practicable, and avoids, remedies or mitigates other adverse effects on Mana Whenua values associated with freshwater resources?
- e. Are other effects appropriately mitigated?
- f. Are residual effects off-set and, if necessary, compensated?
- g. Does the new NPS-FM policy lead to a different conclusion.

Is there a functional need?

627. The NPS-FM defines functional need as the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment.

628. We accept the evidence of the applicant that fill sites, including landfills, typically (but not exclusively) need to be sited in gullies and valleys, as those features provide the best opportunity for containment of the fill, rehabilitation to useable land surfaces and screening from properties beyond the site. Gullies and valleys almost invariably contain reaches of ephemeral, intermittent and sometimes permanent streams. We agree, as a majority, that there is generally a functional need for a landfill to locate in a site such as Valley 1 and as a result infill the streams within that site. We also find, as a majority, that the applicant has undertaken a comprehensive assessment of potential alternative sites in the northern part of the region and has not been able to identify a practicable alternative that avoid infilling a valley. Indeed, the applicant has not identified another practical alternative valley location.

629. Commissioner Tepania does not accept that the landfill has a functional need to traverse, locate or operate in this particular environment and does not agree that the activity can only occur in that environment. At this point we reiterate that Commissioner Tepania does not agree with a number of the findings provided throughout this decision and accordingly her views are recorded separately in Section [23].

Are there other practicable alternatives?

630. We have addressed our findings on functional need above and those findings apply to the practicality of alternative sites that would avoid a valley that contains streams. Alternative sites such as Redvale or Whitford are within quarries where streams have already been diverted or infilled, and no such sites have been identified as available within the northern part of the region. Alternatives to landfills as a method of disposal (such as waste to energy) were advanced, but we do not see our task being to determine whether alternative technologies are practicable. On this specific matter, our task is the more confined one of whether the landfill could be located, designed and operated to avoid infilling the stream. We do not see any practicable alternative.

Is stream loss minimized?

631. The applicant stated that they have modified their design to reduce the extent of stream loss. We accept that there is no obvious way that further stream loss could be avoided if the landfill is to be located at this site. A landfill that occupied half the valley is not practicable. Neither are options like a stream diversion.

Are significant effects on mana whenua values associated with freshwater resources avoided (Policy 13(c))?

632. Here we heard considerable debate (and as we have covered in the section on cultural effects). The debate covered the extent of interaction between freshwater values and wider cultural values associated with natural and physical resources and whether adverse effects on these values could be off-set or somehow compensated, noting that Mana Whenua groups sought to avoid such effects. As set out in the section on cultural values, we were presented with strongly held views that impacts on water could not be subdivided from (or detached from) wider cultural values associated with freshwater resources. Furthermore, adverse effects on these values cannot be mitigated. There will always be an absolute loss of values (ecological and cultural) when streams are infilled. The applicant stressed the need for careful assessment of each sub set of effects, and not conflating each effects assessment into a larger bundle of effects. They also contended that cultural effects ‘flowed’ on from physical effects. If there were no physical effects, then there must be limited or no cultural effects.

633. On the question of the scope of effects (just freshwater values or effects on wider values), we consider that Chapter E3 is focused on freshwater values and effects on these values and need to confine our analysis to those values. We note that the Chapter states that the management of the beds of lakes, rivers, streams and wetlands is important for the protection of natural ecological and biodiversity values, for the efficient passage of flood flows, and the retention of high water quality. These are very much water-related matters. Chapter E1 is also relevant to the ambit of E3. Chapter E1 sets out the overall approach to integrated management of water quality. Objective E1.2.(2) refers to the mauri of freshwater is maintained or progressively improved over time to enable traditional and cultural use of this resource by Mana Whenua”.

634. This is not to say that effects assessment can go no further than considering bio-physical effects. There are clear cultural values associated with stream environments (as there are amenity and recreational benefits associated with streams in their natural state). But nevertheless, under E3 we must consider the effects of infilling a stream (and not the effects of establishing a landfill in this landscape).
635. Our interpretation is therefore that Chapter E3 is not concerned with the 'other' effects of the activity that is to be placed in the valley, nor the wider effects of infilling of streams on cultural landscapes and values, for example. These are matters addressed to some extent by Chapters E26 (and the RPS) and H19 (Rural zone).
636. In terms of freshwater values, the stream that is to be infilled is not accessible to the public and is subject to impacts from periodic forestry harvesting. The stream is located between an area of high natural value to the south and a modified, farming environment to the north. The applicant states it has avoided direct impacts on the mapped extent of highest value stream (the NSMA) by bridging the access road across that stream and limiting direct stream impacts to Valley 1.
637. In terms of direct impacts on the stream within Valley 1, the AUP directs us to include in our consideration impacts on Wahi Tapu, Wahi Taonga and Mahinga Kai.
638. The technical evidence is that the infilling of the stream and placement of a landfill will not adversely affect the health of the stream below the landfill, or the Hoteo Awa. There will be a loss of habitat that may affect food stocks, but this loss of habitat can be off-set by improvement to other habitats. We have heard evidence on the significance of Te Awa o Hoteo encompassing its catchment and headwaters, and the maunga. Clearly the Hoteo is important as a part of a landscape as well as a freshwater environment that is of significance to Mana Whenua. Valley 1 can be seen to be part of a much wider area of high ecological and landscape values (the wider Dome Valley area). This is even taking into account that the plantation forestry will be regularly harvested.
639. We accept that the infilling of one part of the headwaters of the Hoteo can be seen to have a negative effect of the freshwater environment as a whole and hence creating a further 'stress' on the relationship between Mana Whenua and this wider environment. It is important for us to keep in mind that with the exception of potential adverse downstream construction effects and potential flooding effects that may result from filling and culverting, Chapter E3 is focused on the footprint of works within the stream. Within that constraint and in an absence of being presented with a framework to determine significance, it is difficult for us to find that infilling of Valley 1 stream is a significant effect that will substantially affect Mana Whenua's relationship with the freshwater environment. In terms of the NPS-FW there is no practicable way to avoid this effect, given the operational requirements of a landfill, unless the site itself is avoided.
640. Nevertheless, we accept that there is an adverse effect to be taken into account. As for mitigation of effects on cultural freshwater values, we heard evidence of a number of measures and actions that could be taken to lessen perceived and real harm to the environment. The applicant proposes a Kaitiaki Forum to help shape up these types of actions. Mana Whenua did not support this as a viable form of mitigation. We

acknowledge the sincerity of the applicant's offer, but any meaningful engagement requires both parties to be willing to participate. We can go no further than to say that the option for a formal Kaitiaki Forum should be 'on the table', but have not relied on this forum being in operation to say that effects have been mitigated. At the end of the day, the mitigation step may only be able to be taken so far. Having said that, we do not see the absence of a firm 'cultural effects mitigation pathway' to be a block to consent.

Are other freshwater effects remedied or mitigated?

641. The discussion of ecological effects addresses the adequacy of measures to mitigate ecological effects. Our finding is that the applicant has proposed all steps that could be reasonably taken including pre development monitoring and relocation where possible.

Are residual effects off-set or compensated?

642. This matter is addressed on our section on freshwater ecology. Ecological effects will be off-set so no net loss of habitat occurs. Some ecological effects can only realistically be compensated (such as effects on frogs). While not a direct way of 'off-setting' cultural effects, we do see benefit, from the off-site restoration proposed, to the wider values associated with the Hoteo. Active, visible restoration of other parts of the catchment and associated monitoring of outcomes must go some way to balancing concerns that the landfill will only lead to further degradation of the environment.
643. Compensation over habitat loss for terrestrial ecology is covered in our discussion of E15 below.

Policy 18

644. We have concluded that there is a functional need for the activity in the proposed location. We now consider whether the effects of the activity are managed by applying the effects management hierarchy and taking into account practicable actions. For reasons provided in earlier sections, we are satisfied that the proposal meets requirements of the policy by avoiding effects to the extent practicable, and otherwise mitigating, offsetting or compensating adverse effects.

Summary

645. In conclusion, we are satisfied that the stream reclamation required to accommodate the landfill is appropriate within the terms of Chapter E3, and that sufficient actions are proposed to avoid, mitigate and off-set adverse effects. There are some effects that cannot be avoided (cultural effects and direct loss of stream reaches, most of which are intermittent or ephemeral), but this must be balanced against the recognition in the policies that streams may need to be infilled to enable necessary infrastructure.
646. The proposal presents some inconsistency with various E3 policies but is supported by others. Overall, it is not contrary to those provisions. With specific consideration

of Policy 13(c) we find that on balance, the proposal is not contrary. But in the event that it was concluded to be so, we do not consider that to be a determinative policy that would lead us to an overall conclusion that the proposal fails to pass the second limb of the gateway test.

16.2.4 E8: Chapter Stormwater discharges

647. Chapter E8 covers stormwater discharges and diversions. Here we consider stormwater run off from various landfill activities, including roads and the bin exchange area. Leachate and run off from the surface of the landfill is considered separately.

648. Chapter E8 refers to the objectives and policies set out in E1. In turn E1 involves the following:

(1) Freshwater and sediment quality is maintained where it is excellent or good and progressively improved over time in degraded areas.

(2) The mauri of freshwater is maintained or progressively improved over time to enable traditional and cultural use of this resource by Mana Whenua.

(3) Stormwater and wastewater networks are managed to protect public health and safety and to prevent or minimise adverse effects of contaminants on freshwater and coastal water quality

649. Policy 11 refers to avoiding as far as practicable, or otherwise minimising or mitigating adverse effects of stormwater diversions and discharges, having particular regard to:

(a) the nature, quality, volume and peak flow of the stormwater runoff;

(b) the sensitivity of freshwater systems and coastal waters, including the Hauraki Gulf Marine Park;

(c) the potential for the diversion and discharge to create or exacerbate flood risks;

(d) options to manage stormwater on-site or the use of communal stormwater management measures;

(e) practical limitations in respect of the measures that can be applied; and

(f) the current state of receiving environments.

650. Our assessment is that stormwater discharges will be managed to a high standard and that all practicable steps have been taken to avoid and mitigate effects. Freshwater will be diverted around the landfill, and base flows in the stream downstream of the landfill will be maintained. At least two ponds and a wetland are proposed, with capacity in excess of standard requirements. Streams in the site in a farm state will be restored through riparian planting. Some streams beyond the site will be restored through off-set planting. As noted below, the overall long term sediment load associated with the site and the offset / compensation sites should be reduced. These outcomes are consistent with the E8 policies.

16.2.5 Chapters E 11 and E12: Land disturbance

651. These chapters cover earthworks and associated discharge of sediments, at a district and regional plan level. The two chapters have somewhat different focuses: Chapter 11 brings in control over the amount of earthworks to avoid adverse effects on receiving environments. Chapter 12 could be said to more directed at mitigating the effects of earthworks on people and communities, although there is a great deal of overlap between the provisions of these chapters.
652. Policies in Chapter 11 and 12 recognise that earthworks are needed to establish many activities, for example is Policy 11.3.4:
- (4) Enable land disturbance necessary for a range of activities undertaken to provide for people and communities social, economic and cultural well-being, and their health and safety.*
653. In terms of outcomes, policies in Chapter 11 refer to:
- (a) use of best practicable options for sediment and erosion control appropriate to the nature and scale of the activity;*
- (b) managing the amount of land being disturbed at any one time and*
- (d) maintain the cultural and spiritual values of Mana Whenua in terms of land and water quality, preservation of wāhi tapu, and kaimoana gathering.*
654. In addition to the above, Policy 11.3.7 has application, given the acknowledged sensitivity of the Kaipara Harbour to sediment discharges. Policy 7 requires any land disturbance that will likely result in the discharge of sediment laden water to a surface water body or to coastal water to demonstrate that sediment discharge has been minimised to the extent practicable.
655. As we have discussed in our section of possible effects, Waste Management has taken many steps to minimize sediment generation. If anything, once in its operational phase, sediment generation may be less than the current situation. Stream restoration off-sets are likely to see a reduction in stream bank erosion in the stream reaches subject to restoration programmes. These outcomes are consistent with the E11 and E12 policies.
656. Mana Whenua and other submitters expressed concern about the potential of significant earthworks activities, such as that proposed, to further reduce habitat and resource availability (such as kaimoana gathering). We have concluded earlier that the proposal will not exacerbate sedimentation within Te Awa o Hoteo or Kaipara Moana. Correspondingly, we have concluded that the discharges of treated sediment laden runoff will not adversely impact the Hoteo as wahi tapu.
657. In terms of on-site management, the one area where we see that there is the ability to take an additional practicable step is in control of the earthworks associated with the day-to-day management of the landfill, and when a new landfill cell is being constructed. We see benefit in an 'open area' limit applying to the day-to-day

operations, as well as the Landfill Management Plan requiring the identification of an open area limit for each stage of landfill cell construction.

16.2.6 Chapter E15 Biodiversity

658. The objectives and policies in this chapter apply to the management of terrestrial vegetation and biodiversity values outside of scheduled significant ecological areas. This set of objectives and policies therefore covers natural resources such as bats, frogs, fern birds and associated habitats.

659. Objectives recognise the need to improve biodiversity outcomes:

(2) Indigenous biodiversity is restored and enhanced in areas where ecological values are degraded, or where development is occurring.

660. Policies (Policy 15.3.2 and 3) go on to address a cascading management hierarchy of:

- avoiding significant adverse effects on biodiversity values as far as practicable,
- minimizing significant adverse effects where avoidance is not practicable,
- avoiding, remedying or mitigating any other adverse effects on indigenous biological diversity and ecosystem services.
- encouraging the offsetting of any significant residual adverse effects on indigenous vegetation and biodiversity values that cannot be avoided, remedied or mitigated,

661. Policy 7 has particular relevance to infrastructure. The Policy notes that it is not always practicable to locate or design infrastructure to avoid areas with indigenous biodiversity values, in which case the management methods should focus on mitigation and off-setting.

662. Also of some relevance is the fact that the main site of the landfill (Valley 1) is a production forest and is therefore subject to periodic harvesting and replanting (which will result in significant biodiversity impacts over an extended timeframe during and after harvesting).

663. We heard considerable evidence as to the biodiversity values present in Valley 1 and in the vicinity of the bin exchange area and landfill access road. An important point in contention was the extent to which adverse effects on these values could be mitigated, off-set or compensated. Submitters were generally looking for certainty over outcomes (that unavoidable effects would be off-set). The applicant contended that it was not possible to be certain as to long term survival of relocation of fauna, while replacement of new habitat would take time. However, they would undertake best endeavors.

664. We are satisfied that reasonable steps have been taken to avoid and minimise the loss of biodiversity. In relation to steps to off-set and compensate residual effects to a point where there may be a net gain, we note that policy 15.3.3 refers to encouraging offsetting where effects cannot be avoided. There is no absolute requirement that all

effects must be off-set or compensated under the AUP, but noting that the NPS-FW requires no net loss. Overall, the proposal is generally consistent with the E15 provisions if we accept that the landfill is necessary infrastructure and that its location has been appropriately selected.

16.2.7 Chapter E26 Infrastructure

665. E26 is headed “infrastructure” The introduction to the Chapter says that “This section provides a framework for the development, operation, use, maintenance, repair, upgrading and removal of infrastructure.”.
666. However, when it comes to objectives (E26.2) the heading refers to “Network utilities and electricity generation – All zones and roads”. We enquired whether this heading narrowed the ambit of this chapter to infrastructure that was only a network utility or electricity generation (and hence the chapter did not cover landfills). We were informed by the applicant’s planners that E26 covered all types of infrastructure. In response to questions, Mr Ross for Council indicated that Chapter E26 may not apply, although he did include the chapter in his s. 42A assessment and his overall response prior to the applicant’s reply. The applicant’s interpretation was based on the generality of many of the objectives and policies listed, as well as the absence of an ‘overview’ type infrastructure chapter in the AUP.
667. We are concerned that the heading of “Network utilities and electricity generation – All zones and roads”, which precedes all objectives, policies and rules of that chapter, does constrain the scope of the provisions to a limited suite of infrastructure. The reasons for this are not explicit in the AUP but the constrained scope of Chapter E26 is illuminated by the Independent Hearings Panel (IHP) Report¹³⁸ referred to us by Mr Matheson in his reply. Section 1.1 of that report provides guidance on the restructuring of infrastructure provisions between the Proposed Auckland Unitary Plan and the recommendations version of the AUP, and notes that specific activities (e.g. earthworks and impacts on vegetation) as they relate to network utilities and electricity generation have been moved to a combined infrastructure chapter. Other infrastructure related activities are listed as being covered throughout other chapters. In that case reliance upon the objectives and policies of the chapter may be unsound. We do not agree with Mr Matheson that excluding the proposal from Chapter E26 constitutes reading the plan “in a vacuum”. Nor do we accept his assertion that to do so leaves a gap in the plan with respect to infrastructure. The landfill is clearly infrastructure and while they could be more clearly aggregated, multiple provisions throughout other chapters of the plan recognise the need for infrastructure. While we acknowledge that E26 is engaged by the proposed generation of electricity from landfill gas within the rural zone, that is ancillary to the primary landfilling activity. Therefore, for the purposes of our 104D analysis, we have not taken account of the E26 provisions.

16.2.8 Section 104D Conclusion

668. We accept that our consideration of the adverse effects of the activity on the environment must not include offset or compensation benefits. On that basis, we have

¹³⁸ IHP Report on Topic 042, 1.1

concluded that cultural effects and the adverse effects of stream reclamation and associated biodiversity losses, are more than minor. Thus, the proposal does not pass the first limb of the gateway test.

669. In considering the second limb, we are persuaded by Mr Matheson's submissions, as expressed in *Akaroa Civic Trust v Christchurch City Council*¹³⁹ and other cases. That is, our s.104D(1)(b) assessment should be made across the objectives and policies of the plan as a whole, while staying alert to individual provisions that may be so central to the proposal that they could sway the decision. We note that other Counsel did not directly contest this approach. We also accept that we can take account of offsets and compensation in our s.104D(1)(b) analysis, as policies explicitly provide for such benefits to address residual adverse effects.
670. In this instance, we find the overall broad judgement approach is appropriate. While the proposal is contrary to some policies, we find that those are not so central that they sway the decision, when considered against the other provisions including those that engage offsets and compensation. Having focused on the key provisions of relevance to the effects of concern, we are also satisfied that a much wider forensic analysis of every relevant objective and policy would result in the same conclusion. In this finding we have given measured weight to the word "avoid", which is a strong direction that must be given specific regard in resource consent decisions. But on balance, we find that the proposal is not contrary to the objectives and policies of the AUP when considered as a whole.

16.2.9 S.104(1)(a) and s.104(1)(ab)

Any actual and potential effects on the environment of allowing the activity (104(1)(a)).

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 (104(1)(ab)).

671. We acknowledge the positive effects of the proposal and take those into account in our assessment. These have been described earlier.
672. For the reasons detailed in our effects assessment, we find that while various adverse effects of the proposal will be more than minor, all effects will overall be avoided, remedied, or acceptably mitigated, offset or compensated.

16.2.10 Regional Policy Statement 104(1)(b)

673. As noted, in the absence of Chapter E26 being relevant and the view we reached that Chapter E13 is limited to discharge effects of landfills, we consider it helpful to refer to the Regional Policy Statement to assist in our interpretation and weighting of the various infrastructure policies located throughout the other relevant chapters. The construction of s.104 of the RMA means that the RPS is relevant to the s.104(1) test, not the s.104D test.

¹³⁹ *Akaroa Civic Trust v Christchurch City Council* [2010] NZEnvC 110 at [74]

674. Chapter B3 of the RPS covers Infrastructure, transport and energy. Objectives include:

(2) The benefits of infrastructure are recognised, including:

(a) providing essential services for the functioning of communities, businesses and industries within and beyond Auckland;

(b) enabling economic growth;

(c) contributing to the economy of Auckland and New Zealand;

(d) providing for public health, safety and the well-being of people and communities;

(e) protecting the quality of the natural environment; and

(f) enabling interaction and communication, including national and international links for trade and tourism.

675. Objective 4 is also relevant, which states that the functional and operational needs of infrastructure are recognised.

676. On the issue of the effects of infrastructure, objective 3 states that development, operation, maintenance, and upgrading of infrastructure is enabled, while managing adverse effects on

(a) the quality of the environment and, in particular, natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character;

(b) the health and safety of communities and amenity values.

677. Objective 8 more broadly refers to “the adverse effects of infrastructure are avoided, remedied or mitigated”.

678. We note Objective 3’s focus of assessment of adverse effects on *scheduled* areas and resources.

679. Reference to RPS Chapter B3 must sit alongside a consideration of B6 – Mana Whenua. Chapter B6 sets out a range of matters to be taken into account, including the involvement of Mana Whenua in resource management processes, recognizing the relevance of Mana Whenua values and resource management practices and according them sufficient weight in decision making.

680. Some emphasis was placed by submitters on the process-orientated policies, such as B6.3.2(3):

Ensure that any assessment of environmental effects for an activity that may affect Mana Whenua values includes an appropriate assessment of adverse effects on those values;

and B6.3.2(4):

Provide opportunities for Mana Whenua to be involved in the integrated management of natural and physical resources in ways that do all of the following:

(a) recognise the holistic nature of the Mana Whenua world view;

(b) recognise any protected customary right in accordance with the Marine and Coastal Area (Takutai Moana) Act 2011; and

(c) restore or enhance the mauri of freshwater and coastal ecosystems.

681. These matters were contested and are discussed in our earlier consideration of cultural effects. The applicant has undertaken a detailed assessment of physical effects which are a component of the matters that may impact Mana Whenua values, and has identified how those can be appropriately avoided, remedied, mitigated, off set or compensated. Further, by the adjournment of the hearing both the applicant and Council had provided a full assessment of cultural effects, based on the information (including presentation by Mana Whenua) available to their respective planners. We find that by the close of the hearing, the assessments of environmental effects available to us satisfied Policy B6.3.2(3). Furthermore, we make our own comprehensive assessment in this decision.

682. With respect to Policy 6.3.2(4) and noting that (b) is not relevant in this instance, Mana Whenua have provided submissions that indicate that the proposal is not consistent with the holistic nature their world view. But the delivery of the project as proposed does provide opportunities to support kaitiakitanga and contribute to integrated management incorporating matauranga Maori. This is consistent with the wording of the provision which promotes opportunities for involvement. Those activities could contribute to the restoration or enhancement of mauri of freshwater and coastal ecosystems in as much as they reduce sediment inputs and enhance habitats. Therefore, and while acknowledging Mana Whenua submissions that the proposal will negatively impact mauri, we find that it provides a level of consistency with that policy or rather, is not clearly inconsistent with that policy in the round.

683. Policy B6.3.2 (6) refers:

(6) Require resource management decisions to have particular regard to potential impacts on all of the following:

(a) the holistic nature of the Mana Whenua world view;

(b) the exercise of kaitiakitanga;

(c) mauri, particularly in relation to freshwater and coastal resources;

(d) customary activities, including mahinga kai;

(e) sites and areas with significant spiritual or cultural heritage value to Mana Whenua; and

(f) any protected customary right in accordance with the Marine and Coastal Area (Takutai Moana) Act 2011.

684. The evidence we have received from the applicant and Mana Whenua covers the above matters, although we accept that there is debate as to the depth of this analysis. We do not consider we are lacking analysis of these potential impacts. Equally, while Mana Whenua have informed us of their assessment of the above matters, we must take that assessment and place it in the context of the AUP.
685. Of relevance to that assessment is a concern that analysis of possible impacts has occurred in a siloed fashion, with each possible effect looked at in isolation, perhaps in a reductionist way. Instead, a holistic (or perhaps cumulative) look at impacts should be taken, particularly in the context of the degraded state of the Hoteo and Kaipara.
686. We accept that given the scale and longevity of the landfill operation, we need to step back from the detail and to ask ourselves whether the presence of a landfill (even if skillfully managed) would appreciably diminish the Dome Valley, the Hoteo and ultimately the Kaipara as a total interrelated environment, and with this cause harm to cultural values.
687. Given the scale of this wider environment, the current modified state of the landfill valley, the measures to manage the landfill to the standard proposed, the monitoring requirements and actions taken to avoid adverse effects, to off-set and compensate other effects and where possible to appreciably improve current conditions, we consider that these effects on the values of the Dome as a place of value to Mana Whenua (or as natural resource in its own right that is valued by a wide range of people) are not of such a scale that they can overcome the general support that the AUP (and NPS-FW) provides to the establishment and operation of infrastructure.
688. Finally, B6.5. relates to protection of Mana Whenua cultural heritage. Objective B6.5.1 states that the tangible and intangible values of Mana Whenua cultural heritage are identified, protected and enhanced.
689. Where a value of significance has been identified are protected through the AUP, it is protected. However, the AUP it does not contain an exhaustive list of such places. Nevertheless, we were not presented with any evidence that specific places or features within the application site were of sufficient value to be worthy of protection in the AUP.
690. As we have noted earlier, our balanced appraisal within the framework of the AUP and as it incorporates Chapter B6, does not lead us to a position of refusing the proposal in light of the interrelationship of matters that we have been presented. We have had particular regard to those provisions. While collectively cultural effects are more than minor and for many submitters, are significant, we are not able to find that effects in contention are significant enough to invoke related avoidance policies and the proposal can be accommodated with the guidance that the Chapter B6 policies provide.

16.2.11 National Policy Statement for Freshwater Management

691. Auckland Council has updated the AUP in accordance with s.55(2) of the RMA per the mandatory direction included in the NPS-FM. This incorporated two policies relating to natural inland wetlands and rivers and one objective (relating to fish passage). These three objectives and policies are therefore relevant to the s.104 assessment of the consent application, as are the wider principles, objectives and policies of the Statement.
692. In our discussion of relevant objectives and policies we referred to new Policy 18 in Chapter E3 (which is the policy inserted by the NPS-FW) and found no conflict with the policy. We accept that the NPS-FW is much wider in its ambit than Policy 18 and we heard a range of evidence as to how the policy statement has elevated the importance of maintaining freshwater resources as an end in itself. Our view is that the NPS-FW ‘pulls in the same direction’ as the AUP. It does not introduce fundamentally different policy tests. Objective 2.1 establishes the importance of the health and well being of water ways, with human use of water resources a third order priority after maintaining the health needs of people. Within this overall framework, Policy 7 refers to the loss of river extent and values is avoided to the extent practicable. Policy 15 refers to communities being enabled to provide for their social, economic, and cultural well-being in a way that is consistent with this National Policy Statement. Both these policies must provide the opportunity for the impacts of infrastructure on freshwater resources to be tested. As with the AUP, we consider that the landfill can meet the outcomes of the NPS. We accept that the effects management hierarchy has been followed by Waste Management in their approach to avoiding, mitigating and off-setting adverse effects.

17. OTHER RELEVANT MATTERS (s.104(1)(c))

693. Section 104(1)(c) requires us to have regard to “*any other matter [we] consider relevant and reasonably necessary to determine*” the application. We adopt the approach that any “matters” to be considered must be related to the issues contemplated by the purpose of the RMA, which touch and concern the application and the submissions to be determined.
694. Non-RMA documents are commonly considered as relevant matters under s 104(1)(c), particularly where they relate to the management of the natural and physical resources affected by the application under consideration or are directed to managing activities that are a common feature of the existing environment.
695. A number of non-statutory strategic documents have been prepared in order to guide the management and minimisation of waste in the Auckland region. An issue in the case was whether Waste Management’s proposal was consistent with them (Waste Management’s position), or not (submitters’ position).
696. In this case, we have considered the following non-RMA documents because they describe various plans or strategies regarding the disposal of waste in the Auckland region that are in the public domain and which have some relevance to the application:

Instruments (including any management plans and strategies) prepared under other statutes

- The NZ Waste Strategy (2010)
- Auckland Waste Management and Minimisation Plan (2018)
- Low Carbon Strategic Action Plan (2014)
- Auckland's Climate Plan (2020)
- The Auckland Plan 2050
- Solid Waste Bylaw
- New Zealand Waste Strategy 2010.

697. We also consider the following documents are relevant:

Other relevant legislation

- Ngāti Manuhiri Claims Settlement Act (2012)
- Ngāti Whātua o Kaipara Claims Settlement Act (2013)
- Te Uri o Hau Claims Settlement Act (2002)
- Ngāti Whātua Ōrākei Claims Settlement Act (2012)
- Waste Minimisation Act (2008)
- Climate Change Response (Zero Carbon) Amendment Act (2019)
- Resource Management (Energy and Climate Change) Amendment Act (2004)
- Wildlife Act (1953).

698. We have had regard to the relevant elements of the above documents and paid specific attention to the Waste Minimisation Act and the Auckland Waste Management and Minimisation Plan 2018 which several submitters relied upon in their opposition to a new landfill. In particular, our attention was brought to the aspiration of zero waste by 2040. However, as we have already noted, we received no credible evidence that this aspiration could be achieved before the closure of the Redvale landfill, while we did receive evidence that a landfill will continue to be required in the northern part of the region.

18. ASSESSMENT OF ALTERNATIVES AND BEST PRACTICABLE OPTIONS (s.104(6))

699. Under the RMA, where an activity is likely to result in "*any significant adverse effect on the environment*" Schedule 4, clause 6(1)(a) requires that an applicant include in their application a "*description of any possible alternative locations or methods for undertaking the activity.*"

700. Waste Management described the site selection process in the application which was relied on to establish that the location of the landfill had been through a considerable process of consideration alongside other possible alternatives. This information was expanded on at the hearing.

701. At the hearing various submitters were critical of the assessment and challenged the adequacy of Waste Management's site selection process and the chosen method of waste disposal (i.e. waste to landfill). They contended that Waste Management had

acted arbitrarily or given only cursory consideration to alternative sites and methods and that site selection lacked transparency.

702. We consider Waste Management's approach with respect to Schedule 4, clause 6(1)(a) of the RMA to have been appropriate.

19. CONDITIONS

703. We have made minor amendments to the applicant's final proposed set of conditions, provided after the adjournment of the hearing to standardise references. Those are not commented on herein.

704. Material additions and changes to support our findings are as follows.

- a. Amendment to Condition 120 to require annual monitoring of frog abundance in areas of pest control and enhancement planting, and the submission of the monitoring results to Council with contingency measures as necessary.
- b. Amendment to Condition 123 to require at least 2km planting per year as a minimum rather than a target.
- c. Amendments to Condition 229 to address the matter of 'date stamping' the control on noise effects and better reflect the applicant's intent.
- d. New Condition 231A to require noise monitoring and contingencies to be reported to Council.
- e. The addition of an advice note at Condition 251 to clarify that the winter earthworks restriction does not apply to activities associated with the daily receipt and cover of waste.
- f. New Condition 259A to impose an open area limit for the landfill working face of 7000m² to accommodate an 80m x 80m working area.
- g. New Condition 259B to allow for Site Specific Erosion and Sediment Control Plans to be approved by Council to exceed that open area limit during periods of construction of new landfill cells.
- h. New Condition 234A and modification of Condition 235 to address potential operational lighting impacts on bats.
- i. Consequential amendments to Condition 235, 236 and 237 to better integrate the lighting conditions.

20. MATTERS RELEVANT TO DISCHARGES

705. Activities that form part of the application involve discharges to air during construction, and the discharge of storm water into water and onto land. Accordingly, we must be satisfied that the thresholds to the grant of such permits in ss.105 and 107 have been met. Section 105 obliges us to consider the nature of the discharge, the sensitivity of the receiving environment to adverse effects, the reasons for the discharge and any

possible alternative methods of discharge including discharge into any other receiving environment. In addition, s.107 prevents the grant of a discharge permit where, after reasonable mixing, any discharge of contaminants is likely, directly or indirectly, to give rise to certain adverse effects in the receiving waters.

706. We heard no evidence or legal arguments to the effect that these provisions could not be met by the proposal, if undertaken in accordance with appropriate conditions.

707. We find on the basis of the technical evidence that s.105 and s.107 will be achieved by the application, both during construction activities and in its future operation.

21. PART 2 ASSESSMENT

708. Earlier in this decision we noted that for the purposes of considering the application we did consider it appropriate to refer specifically to Part 2 to assist our evaluation of the application under s.104 and the AUP.

709. Based on our findings above, we are satisfied that granting the resource consents sought, with the conditions we have included, will be in accordance with Part 2 of the RMA in that it will promote the sustainable management of natural and physical resources. In this conclusion we acknowledge the imperative that, in exercising our functions and power under the RMA, we must recognise and provide for the s.6 matters of national importance, including s.6(a), (c), (e) and (h). We have also had particular regard to the other matters of s.7 including s.7(a), (aa), (b), (d), (f) and (g), and our s.8 requirement to take into account the principles of the Te Tiriti o Waitangi.

710. We have not identified any inconsistency or deficiency in the AUP provisions that require a determinative judgement to be made under Part 2. Consistent with our findings on the AUP provisions, we find overall consistency with Part 2. We are satisfied that having regard to Part 2 leads us to the same conclusion we have reached following our assessment of the application under s.104. That is, we are satisfied that granting the application subject to conditions will promote the sustainable management purpose of the RMA and have appropriate regard to the other matters in Part 2 that are engaged by the project.

22. DECISION OF THE MAJORITY

711. Based on our findings above, and the reasons supporting our discretion to do so:

(a) Pursuant to s.104D and s.104 of the RMA, the majority have determined to exercise our discretion in favour of the application and to **grant the resource consents**, subject to the conditions. We are satisfied that doing so will achieve the sustainable management of natural and physical resources. The project will generate positive economic effects, appropriately manage health and safety effects and adverse effects will be appropriately avoided and/or mitigated with the measures included in the application and by the conditions of the resource consents.

(b) In the exercise of our delegation under ss.34 and 34A of the RMA, after having regard to the foregoing matters, the majority therefore determine that the

resource consents are granted for the reasons stated below, those reasons summarising the commentary in the decision report above, and with the resource consents being subject to the conditions set out below.

712. The reasons for granting the consents are:

- a. The project will provide for necessary regional waste disposal services, positive economic and social effects, and positive ecological effects through the offsetting proposals;
- b. The actual and potential effects associated with the establishment and operation of the landfill can be avoided or mitigated to an acceptable level by the measures included in the application and by the conditions of the resource consents;
- c. The project is consistent with and overall, achieves the relevant standards, policy statement requirements and the relevant plan objectives and policies;
- d. We have given careful consideration to all we received and heard from submitters addressing the concerns of Mana Whenua. As discussed in our decision, we find that, collectively cultural effects are more than minor and for many submitters, are significant. But we are not able to find that effects in contention are significant enough to invoke the related avoid policy included in the planning documents.
- e. The majority finding is that the proposal achieves the purpose of the RMA and accommodates the relevant ss.6, 7 and 8 matters.

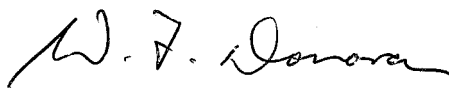
713. Our discretion in relation to the application must be exercised so as to achieve the statutory purpose of the RMA. In considering this discretion, we also record that with the conditions of the resource consents, that emissions of noise from construction and operational activities associated with the proposal would not exceed a reasonable level, such that the duty in s.16 RMA will be fulfilled.

714. We have given due regard to all the submissions lodged in relation to the application.

715. Based on our findings above, the majority are satisfied that granting the resource consents sought to the application, with the conditions we have included, will be in accordance with Part 2 of the RMA in that it will promote the sustainable management of natural and physical resources.



A Watson
Commissioner



W Donovan
Commissioner



M Parsonson
Commissioner



D Mead
Commissioner

Dated 11 June 2021

Appendix 1 – Resource Consents and Conditions

23. DECISION OF COMMISSIONER TEPANIA

Introduction

1. The decision above represents the majority view of the four Commissioners. The following section sets out my dissenting view. The Commissioners and I do not agree on the suitability of the subject site for the proposed landfill. This difference of opinion arises from our findings in relation to the evidence on:
 - a. The adverse environmental effects of the landfill in relation to cultural values and interests and ecology;
 - b. The actual and potential risks of low probability but high impact;
 - c. The uncertainty of the offset & compensation package in relation to ecological effects;
 - d. The site context and AUP planning framework.

Effects on cultural values and mana whenua interests

The majority findings and point of divergence

2. The evaluation approach in relation to cultural values and effects on those values, as set out in the majority decision, provides an appraisal of the current legal framework within which to consider the evidence that was before us in relation to these issues. Having been responsible for the drafting of section 15.22, I therefore adopt paragraphs 397 – 582 inclusive.
3. However, I do not agree with the findings reached by the majority on this issue and do not agree that those findings could have been reached on the evidence before us. I do not agree with the manner in which the majority have applied the current legal framework to the evidence heard, which is why we reach a different conclusion on the fundamental outcome of this case.

A discussion of the evidence

4. Looking at the current law on this issue and the legal submissions that were put to us by Counsel, allows us to adopt a legal framework clearly set out by Whata J. in the *Ngāti Maru* decision and guides us as to the appropriate metrics for assessing conflicting evidence from within the Māori system. I consider the very nuanced discussion by Whata J. in *Ngāti Maru* greatly assists our understanding of the current legal framework within which we are to consider the merits of this application, particularly in the Auckland context. On the basis of that framework, in my view, the evidence heard suggests a different outcome to the one the majority have reached.
5. I accept that we must be able to identify, involve and provide for iwi and their mana whenua in accordance with mātauranga Māori and tikanga Māori. I accept that as Ngāti Manuhiri and Ngāti Whātua have claimed that a particular outcome is required to meet those directions in accordance with tikanga Māori, that we must meaningfully respond to that claim. I acknowledge that duty to meaningfully respond must apply to

the tikanga-based claims made by Ngāti Manuhiri and Ngāti Whātua as to what is required to meet those obligations. Furthermore, I note that that duty also requires us to engage meaningfully with the impact of this application on the whanaungatanga and Kāitiakitanga relationships between Ngāti Manuhiri and Ngāti Whātua and the natural environment, with their lands, waters, taonga and other significant features of the environment such as Te Awa Hōteho and Kaipara Moana, “seen not just as physical resources but as entities in their own right — as ancestors, gods, whānau — that iwi have an obligation to care for and protect”.

6. The position and evidence of the Mana Whenua groups is that the proposal will result in significant adverse cultural effects to their tikanga, beliefs and relationships with their ancestral waters, lands and taonga. That includes the cultural effects of the proposal on Papatūānuku, mauri, kaitiakitanga, manaakitanga, tikanga and mana.
7. I accept that the evidence given for iwi and hapū was a tikanga based mana whenua perspective and that the assessments of effects on their identified values have been prepared by those with the appropriate expertise, credibility and standing and presented in a way that ensures accountability back to the tribal groups they represent.
8. The evidence of Ngāti Manuhiri regarding their ancestral connections to the site and its surrounding area with the *ara tupuna* along the maunga, the *wai* environment with streams both through and surrounding the site, some of which were named to represent their different qualities and/or presence of taonga species, usages and connections to tūpuna, clearly asserts Manuhiritanga.
9. The physical presence of the two kōhatu, the korero that attaches to the identity of them and that ancestral connection to both Ngāti Manuhiri and Ngāti Whātua also representing tribal boundaries, supports their assertions of the significance of Te Awa Hōteho.
10. This extensive history of interaction and intimacy of relationship with the natural landscape features of the Hōteho, including named peaks (maunga) and waterways characterises the sense of place and belonging inherent in the culture and traditions of iwi, Ngāti Manuhiri and Ngāti Whātua. It reflects both the physical and spiritual relationships they have with the natural and physical resources of the area and a deep cultural understanding of this site and context.
11. The significance of the Hōteho stems from its historical cultural associations and in the case of Te Awa Hōteho, these associations include the intra-related natural and physical components and features that make up the site as a whole. This includes, although is not limited to, a history of interaction with the site, both peaceful and contested, named waterways, and Te Awa Hōteho also connecting the tribes and flowing over significant tribal identifiers (the kōhatu of Taihamu and Iriwata) and into the Kaipara Moana. That significance was supported by external evidence which corroborated those values and that significance, long before the filing of this application.
12. It also includes occupation of the Hōteho by key tūpuna, a place of refuge, an east-west transport route and an *ara tupuna* connecting acknowledged and protected

peaks and kainga (village) and supporting tribal alliances. Evidence points to the area as a source of rawa tūturu (customary resources) which provided and continues to provide (although currently in a vulnerable and degraded state) sustenance and materials for generations, rākau including kauri, taraire, fish, kakahī, tuna, kokopu, īnanga and other flora and fauna and the role of the area as the ancestral home of the iwi.

13. I accept the submissions of Counsel for Ngāti Manuhiri and Te Rūnanga that awareness of a risk can be an adverse impact on cultural belief systems, reasonably held and as Mr Ross stated, "...that the presence of the landfill within Ngati Manuhiri's rohe, and the perception that adverse effects from leachate and contaminants on the environment (particularly Te Awa o Hoteo and Kaipara Moana) is in and of itself an adverse intangible, spiritual effect."
14. However, I do not consider there was extensive evidence that that awareness of a potential effect on the harbour and in particular on the awa, would materially change the way mana whenua interacted with or responded to the awa or harbour in terms of being able to swim in the awa / harbour or take kai from it, although that inference could be drawn from some of the submissions.
15. Instead, the material change appeared to be in the way they would relate to the Hōteo and the extent to which they considered it would be a transgression of tapu deeply felt. There are circumstances and certain contexts within which a particular mana whenua iwi or hapū group may determine, having assessed the evidence and had the necessary conversations with those who have the relevant matauranga or expertise, that those effects can be carried or sustained by the iwi / hapū and that that burden can be addressed through appropriate mitigation etc. But that will not always be the case and it might very well turn on the state of the iwi/hapū, the state of that environment (from a cultural perspective) and the other burdens that environment is currently being asked to carry (similar to cumulative effects, for example). Those are all matters that we expect mana whenua will consider and balance for themselves in their expertise and matauranga and in their kaitiaki response.
16. Counsel for Waste Management submitted that a finding on cultural effects (including spiritual effects) needs to address whether (and to what extent) it rests on an evidential finding of a physical effect. I disagree. That form of inquiry is not a cultural one and would not be appropriate where the evidential findings on "physical effects" are based on assessments by the relevant technical experts, who confirmed either in their evidence or in answer to questions from the Panel that they had not considered cultural values and/or the cultural values assessments in forming their opinions and reaching their conclusions.
17. As we have set out above in discussing the appropriate legal framework within which to consider the merits of this application and the effects on cultural values, while cultural aspects of the environment include both physical and spiritual dimensions, the effects on cultural values, whether they be physical or spiritual aspects, must be assessed within a cultural framework and by those with the requisite knowledge to undertake that assessment.

18. It is not appropriate to draw conclusions regarding 'tangible' cultural effects with scientific conclusions on physical effects in this case, particularly where technical witnesses did not engage with the concept of kaitiakitanga instead confining consideration of the proposal's impact on Mana Whenua to its bio-physical impact.
19. I consider the evidence we heard demonstrated a direct living connection between the kaitiaki (whānau, hapū or iwi members who whakapapa to the place) and their tūpuna. That living connection also links them with their customary way of life, the ways in which they would use the awa to sustain their gardens, the tūpuna who lived beside the awa, the mahinga kai available to them, the location of the mauri stones representative of the tūpuna and sites of importance to them. By safeguarding these places and maintaining their living connection to them, they are able to provide for their wellbeing and sustain their culture for the next and future generations.
20. I accept that the cultural values identified demonstrate the physical and spiritual connection Ngāti Manuhiri and Ngāti Whātua have, as recognised in Te Ao Māori, mauri being the thing which binds the physical and the spiritual together in balance, thus enabling life to thrive. The evidence of mana whenua is that they, as hapū and iwi who whakapapa to and hold customary authority over the people and resources of this area, are required to ensure that the core essences of mauri, wairua, mana, tapu, noa and whakapapa (identified in their CVAs) are maintained and balanced as a sacred duty and matter of survival. They contend and I accept, that the siting and the presence of a landfill in this location will frustrate that balance and the relationship they have with this environment.
21. The evidence demonstrated that mauri and mana in particular can increase or decrease depending on the condition of the environment and the actions (or inactions) of people – as Mr Riwka said, the mauri can be warm or cold. The cultural view presented to us was that if mauri is degraded the ability of the environment to support life is degraded and if the hapū or iwi is unable to maintain these and sustain the environmental resources, their mana may decline.
22. I accept that on the evidence presented to us the siting and presence of the landfill within this environment will continue to be a threat to the mauri of this environment and taonga within it and will have an effect on the mana of Ngāti Manuhiri and Ngāti Whātua, as they have assessed it.
23. It was explained in the CVAs and in presentation of evidence to us, the ways in which hapū and iwi of Ngāti Manuhiri and Ngāti Whātua, manage their core responsibilities through values including Whanaungatanga, Rangatiratanga, Kaitiakitanga, Manaakitanga and Wairuatanga. They highlighted that these values are implemented via their own tribal tikanga and mātauranga which has developed over time based on their own specific context, rohe environment, history and whakapapa.
24. 'Te Au o te Kanohi Māori' was also explained to us in evidence and highlighted in submissions of Counsel, emphasising that hapū and iwi belong to the whenua, and are required to maintain and manage the environment including people, resources and heritage with the tikanga of hapū and iwi being a part of the common law of New Zealand.

25. I accept that the tikanga of Ngāti Manuhiri and Ngāti Whātua are a relevant resource management consideration in this case, which finds some countenance in the requirements of s.6(e) and the relationship of Māori, their culture and traditions.
26. That the siting of a landfill in this location would be a breach of tikanga given the vulnerable state of Papatūānuku was also emphasised by mana whenua submitters. For them, it was an unnecessary and inappropriate ‘trade-off’ that they were asked to consider and that would come at the expense of key values for Ngāti Manuhiri and Ngāti Whātua and to the local and wider environment without any reciprocal benefits to their rohe. Counsel for Te Rūnanga submitted that the trade-off includes the negative impacts on the relationships and beliefs of Ngāti Manuhiri and Ngāti Whātua ki Kaipara with their ancestral lands, waters and taonga.
27. In referring to tikanga Counsel for Ngāti Manuhiri referred us to the *Takamore*¹ case which is not an RMA case but relevant for its findings that the common law imports tikanga as a value and matter to be weighed. Counsel submitted that we had heard the common law of the mana whenua, and the expectation is that that is applicable unless it creates a repugnancy or violence on the frame. Counsel further submitted there was nothing that had been said throughout the hearing of Mana Whenua evidence, that creates that violence or repugnance referred to by the Supreme Court.
28. He also referred to the numerous opinions held regarding the cultural belief that everything from Papatūānuku should be returned to Papatūānuku although acknowledging that if Papatūānuku doesn’t actually clean the waste before it reaches the water then the act is purely symbolic and the cultural and traditional intent compromised.
29. I do not consider that recognising the effects on tikanga is limited to intangible effects. In any event those effects can be measurable in that one can measure whether or not a particular practise is being carried out in accordance with tikanga and if it is being practised whether or not the presence of the landfill will impede the practise of that tradition. That is an effect that needs to be addressed.
30. Based on the evidence and the current degraded stated of the Kaipara Harbour, the Hōteio catchment and Te Awa Hōteio, the evidence is that this environment has reached its capacity to withstand both further degradation and/or the threat of it, the mauri is weakening and vulnerable and kaitiaki are already identifying indicators of this weakened state within the Hōteio. They contend they already struggle to maintain their relationship to this area but are taking positive steps now to strengthen and reconnect to the area, re-asserting their relationship and properly exercising their role as kaitiaki (for example, through the Independent Kaipara Harbour Management Plan steering committee (IKHMP)). Consistent with the explanation provided by Dame Naida Glavish, it is because of this weakened state of mauri that the need to protect it becomes more urgent and gives rise to tikanga that needs to be followed to ensure its protection.
31. I consider the viewpoint of Mana Whenua was consistent and coherent and their widely held belief is that the landfill is another stressor on this already vulnerable

¹ *Takamore v Clarke* [2012] NZSC 116

environment, the placement of a landfill in this environment essentially ‘tipping the scales’, further diminishing their relationship with the area and preventing them, in their mana whakahaere roles, from being able to exercise kaitiakitanga and practise their culture and traditions in a way that is consistent with tikanga and their own mana motuhake. They consider their ability to demonstrate manaakitanga is also reduced and their mana disregarded.

32. Mana Whenua have assessed the effects on Papatūānuku, mauri, their cultural landscape, the exercise of kaitiakitanga including manaakitanga and mana as significantly adverse as to their relationship with their ancestral lands, waters and taonga and a threat to their associated culture and traditions. I accept that those assessments are properly put, are persuasive and there is no evidential basis to disregard them.
33. I find that the impact on the whanaungatanga and Kāitiakitanga relationships between Ngāti Manuhiri and Ngāti Whātua and those natural and physical features within their cultural landscape including Te Awa Hōteho and its surrounding waterways will be adversely affected through the diminishing of that relationship, frustrating their ability to exercise kaitiakitanga and to care for and protect that environment.
34. I refer to Mr Ross’ agreement that we had heard sufficient evidence that there had been a direct adverse cultural effect on intangible beliefs, such as that related to the impact on taonga, and that we had heard sufficient evidence that that then results in a physical disconnection of mana whenua to that taonga. He considered it tied back to the fact that they will feel shame and the fact that that shame may then permeate out into an effect in the way that people use the Hōteho and the Kaipara.
35. I note further that the RMA does not talk about ‘metaphysical effects’ nor do I consider that separating out cultural effects into physical, spiritual, metaphysical, tangible and intangible effects, is a useful means of evaluating cultural effects and is particularly at cross purposes with the holistic view of mana whenua and their view of their relationship with the environment. It is noted that the description of metaphysical is not a necessary assessment of effect.
36. I do not accept the suggestions made by Waste Management either in reply evidence or submissions, that Mana Whenua have been allegedly, inconsistent in their response to other projects in the rohe and insofar as Te Awa Hōteho is concerned in particular, when comparing their response to this project. The implication that this alleged inconsistency somehow minimises the validity of their cultural values assessments and their assessment as to the magnitude of effects on their values is without merit. The individual response of the various Mana Whenua submitters before us to each and every environmental proposal throughout their rohe was not a matter of evidence before us and in any event is not a relevant matter for us to consider or determine as we have noted above. It certainly, in no way undermines the evidence they have submitted in respect of this particular application and the extent to which they consider, in their assessment of this application, those effects are significant, are adverse and are not able to be avoided, remedied or mitigated. If anything, the converse is true and indeed it tends to indicate that in respect of this particular application they have genuine and strongly held concerns.

37. In relation to the Aukati Rāhui, as Mr Pou explained it, “These are cultural expressions that can’t be transgressed if they are to maintain the integrity of their culture and their connection between tangata whenua.” I accept that this is an expression of tikanga exercised by kaitiaki and a relevant resource management consideration however, I do agree with the submissions of Counsel for Te Rūnanga that while the Aukati Rāhui is a statement of intrinsic opposition, it can not be raised as a veto in terms of the case law.
38. It is important to note, in terms of mitigation, that while the appropriate balance is clearly achieved from the perspective of Mr Kapea and his whānau, the balance is different for those marae, hapū and iwi of Ngāti Manuhiri and Ngāti Whātua who continue to oppose the landfill and whom have determined that the effects can not be adequately mitigated, offset or compensated. It may even be different for Ngā Maunga Whakahii, given Ms Sherard’s comment that if we do not refuse this application then perhaps we might consider approving only the plan change application, this solution including that Redvale might be able to be extended while discussions with Mana Whenua as to an appropriate location continue to be had.
39. Perhaps, if anything, it serves to show that the extent to which a landfill in the Kaipara catchment or indeed the Hōteho catchment, in and of itself is considered adverse, is dependent on the views of each of the mana whenua groups about the context, scale and form of that proposed landfill, the extent to which there is a necessity for it and the adequacy and certainty of any mitigation package, particularly one that properly reflects the differing levels of interest mana whenua have and harm they may need to endure.
40. Mr Kapea’s acceptance of the proposal does not weaken or undermine the submissions and evidence that this Panel has received from Mana Whenua who oppose this proposal nor their assessment of its effects against their values.
41. In terms of the adequacy of mitigation from a Mana Whenua perspective, if Te Awa Hōteho and subsequently the Kaipara Harbour are to be appropriately protected from potential adverse effects, that protection would need to be absolute and guaranteed given the vulnerability of that environment and the effect on their culture, traditions and relationship with it.

Summary and conclusion

42. The position and evidence of the Mana Whenua groups is that the proposal will result in significant adverse cultural effects to their tikanga, beliefs and relationships with their ancestral waters, lands and taonga. That includes the cultural effects of the proposal on Papatūānuku, mauri, kaitiakitanga, manaakitanga, tikanga and mana.
43. There was a clear and consistent view from Mana Whenua that a landfill has a direct adverse effect on Papatūānuku and in this location would also affect those other aspects of the natural environment that come from Papatūānuku and Ranganui. I accept, as Mr Riwaka stated, that a landfill in this location would challenge the relationship that Mana Whenua have with their lands, water, sites, waahi tapu, and other taonga, and their kaitiakitanga role in respect of protecting the awa and whenua. The landfill’s presence will clearly and irrevocably diminish that relationship, and will

seriously limit the ability to exercise kaitiakitanga and manaakitanga consistent with their tikanga, culture and traditions. On this basis Part 2 (sections 6(e) and 7(a)) cannot be met by this application.

44. I agree with and accept the submissions of Counsel for Ngāti Manuhiri and Te Rūnanga that the views of Mana Whenua are strongly held, and the cultural witnesses have the gravitas, recognition and mandate to provide that evidence. I have placed more weight on the evidence of the Mana Whenua groups than that of the Applicant's expert, Mr Bill Kapea. The reasons for this have been set out earlier in section 7.4.
45. While scientific evidence might measure for example, the effects on aquatic ecology based on particular values associated with aquatic ecology, and determine those effects are minimal physical effects, that does not necessarily mean that those effects measured against particular cultural values should, as a matter of course, also be assessed as minimal simply by virtue of them also being 'physical'. Effects on cultural values whether they be on physical or spiritual aspects must be assessed within a cultural framework. It is my view that effects on freshwater and terrestrial ecology, including aquatic ecology, have not been considered by the relevant technical experts called by the Applicant or Council, through a 'cultural lens' or with any regard to the cultural values assessments.
46. Furthermore, I do not accept that the overall package of ecological mitigation, offsets and compensation sufficiently addresses the effects of the proposal; particularly the uncertainty of the outcomes of those measures. In this regard I prefer the evidence of Ms McArthur, Dr Maysek and Dr Clearwater. I do not accept that the mitigation being offered by Waste Management is either appropriate or sufficient to address what has been identified as significant adverse cultural effects. The establishment of a Kaitiaki forum that Ngāti Manuhiri and Ngāti Whatua have already indicated they do not want and will not participate in, cannot be considered mitigation. It falls to the applicant in such a circumstance, given their choice of site selection, to find another form of mitigation that appropriately mitigates the identified effects on the identified values. None was forthcoming.
47. The mitigation that Mr Kapea discusses in terms of the placement of kōhatu in the awa and the erection of a pou, are matters of tikanga. While it is his evidence that Mana Whenua will determine how that is to occur and that "tikanga will take care of itself", the evidence from all the Mana Whenua groups was that this was unacceptable.
48. I accept the submissions from Mr Bill Kapea and Mr Te Arahi Kapea that for them, there are benefits to staying at the table and 'rewards' to be gained for Ngāti Rango, by not walking away from the relationship. The examples Mr Bill Kapea gave in evidence about the opportunities he had seen in his work and experience and as described in his Kate Valley Hikoi Report are clear indicators of the aspirations he and his whānau have for their whānau, marae and hapū. He acknowledged that this comes at a cost and it comes with risk, but for them it was acceptable.
49. However, I consider that while the landfill will come with risks, and that risk may be acceptable to some, this is not the case for Ngāti Manuhiri, Te Rūnanga o Ngāti Whātua, Ngā Maunga Whakahii, Te Uri o Hau, Ngāti Whātua Ōrakei and marae, in

particular Araparera, Haranui and Puatahi. The evidence from those groups is that in terms of their culture and traditions in relation to Te Awa Hōteu and the Kaipara Harbour, there will be a material change in how they see themselves and/in that landscape. That material change has a significant effect on their relationship with the awa and whenua— irrespective of what the scientific evidence is in terms of the physical or potential physical effects.

50. My findings are that, collectively cultural effects are more than minor and for Mana Whenua submitters, are significant. I find that cultural effects in contention are of such significance that the related avoid policy/ies should be invoked.

Risk

The majority findings and point of divergence

51. I refer to and adopt paragraphs 373-382 and 384-389 of the majority decision regarding risk. I agree that the RMA does not stipulate what combination of probability and consequence is tolerable or intolerable and that this is for the Plan and consent process to determine.
52. I note the majority findings that while some form of minor malfunction of the liner may be a possible event, on the basis of the evidence provided, leachate escape is an unlikely but possible event (far from certain) and the evidence was that the consequences of a small leachate escape are negligible. The majority also found that as for risks associated with high levels of rain fall, the evidence was that the landfill design ensures that leachate generation will not reach a level that will overwhelm the collection and disposal system.
53. Then considering whether “the consequences for cultural values (rather than physical, ecological values) are significant”, in the context of the probability of a minor escape of leachate happening being at the low end of the probability scale, and few if any manifest physical effects, the majority accepted that adverse consequences for cultural beliefs is a valid concern to hold when assessing risks, and that these consequences are separate to those of physical (or tangible) consequences. They also accepted, on the basis of the submissions we have received, that the risk of leachate discharge is one element that does compromise those beliefs. They accepted that people have differing tolerances for risk, and submitters have described a range of backgrounds that influence their tolerance and concern. I agree with the majority findings on these points.
54. I disagree with the majority finding that, “taking into account the predicted low risk of physical effects on Te Awa Hōteu and Kaipara Moana, this ‘cultural consequence’ does not lead us to a conclusion that the risks associated with the proposal will be unacceptable.”

A discussion of the evidence

55. I refer to Mr Gardner’s submission on behalf of Federated Farmers and his suggestion that there needs to be some sort of societal input into what are considered to be tolerable risks. He also noted, that no account seems to have been taken of the

sensitive nature of the Hōteu River and Kaipara receiving environments, in the event of a “contingent event” such as an extreme rainfall occurring. While Mr Gardner agreed with Counsel for Waste Management that the RMA is “not a no-risk statute”, he submitted that, “the law has moved on and now requires there to be an evaluation of whether the level of risk associated with any given project would be considered by reasonable members of the public to be acceptable.”²

56. Counsel for Ngāti Manuhiri and Te Rūnanga submitted that awareness of a risk can be an adverse impact on cultural belief systems, reasonably held. They referred to Mr Hohneck’s evidence which highlighted the way in which Ngāti Manuhiri would be viewed by their Kaipara relations if they allowed a landfill of this nature to be built within their rohe. They submitted that the perception that leachate or other forms of residual waste may contaminate food sources in the Hōteu, and wider Kaipara catchment, including Tamure/snapper-nursery is an adverse intangible, spiritual effect and that Ngāti Whātua have an obligation to maintain that nursery.
57. As Mr Pou explained in response to questions from the Panel, to illustrate the fact that adverse effects on ecology may be considered to be minor, does not necessarily mean they are culturally acceptable. He submitted that this was a consideration by the Planning Tribunal in *Taumarere*, when it declined an application for a discharge consent³.
58. Mr Pou referred to ways in which the ‘perception’ that discharges could potentially occur from the landfill, affected the traditions and cultural relationship that iwi have. He referred to the evidence given by Dame Naida, recalling walking out from her home on the Hōteu, grabbing a spear, killing a pātiki (flounder) and taking it back or digging up kūaru for the fire, and the impact of knowing that even absent the catastrophe of the leachate or other discharges going in, just knowing that there is a landfill flowing into the stream that feeds over the place where she used to get those pātiki, disinclines and it diminishes that relationship.
59. Mina Henare spoke on behalf of Tinopai Resource Management Unit. She referred to the intimate connection that kaitiaki have to the Kaipara and to their whenua walking their land, walking their coastline, fishing their harbour, hunting and gathering from Papatūānuku. Ms Henare was concerned that the applications appeared to rely heavily on monitoring and mitigation to prevent leachate and sediment discharge into Te Awa Hōteu and the whole of the Hōteu catchment. She pointed to the risk that should those plans or monitoring regimes fail, leachate or sediment might affect Te Awa Hōteu or the Kaipara Moana threatening that taonga for future generations. In her view, relying on monitoring and management plans puts Kaipara iwi in a precarious and unsettling position.
60. In his expert evidence, Mr Bill Kapea referred to his visit to the Kate Valley landfill, describing it as the “game changer” for himself and Mr Te Arahi Kapea, as the leachate management operation at Kate Valley was ‘most impressive’. While he

² Mr Gardner also referred us to the interim decision of the Environment Court in *Taranaki Energy Watch Inc. v South Taranaki District Council* [2018] NZEnvC 227, see Outline of submissions on behalf of Federated Farmers, 2 December 2020 at p. 10, paras 34-36

³ *Te Runanga o Taumarere v Northland Regional Council* [1996] NZRMA 77

acknowledged that leachate, if it were to get into the Kaipara Moana, would pose a threat, he was confident this would not occur, relying on Mr Alan Pattle's findings and recommendations in his peer review of the landfill engineering and operations. On that basis, Mr Kapea appeared satisfied that the landfill at Kate Valley was evidence that risks of land instability and high rainfall could be managed.⁴

61. Mana whenua considered the evidence regarding discharges from the landfill both now and into the future – the lifetime of the landfill – had not been absolutely certain. They were not persuaded by the 'changing information they had been given', the lack of agreement and certainty on the part of experts for the Applicant and the Council, and the absence of any guarantee there would be no discharge from the landfill in its lifetime. They concluded that for them, the level of risk remained a low probability-high impact and given the significance of the Hōteu to them and its relationship with the Kaipara, that risk was "far too great to take" and was unacceptable.
62. Ms Sherard emphasised the importance of the Kaipara Harbour to Ngā Maunga Whakahii and the IKHMP, referring to the Harbour suffering from degraded water quality and sedimentation. She noted that it is governmental priority to keep its waterways away from threat and for her it should be total avoidance based on assessment of location. She was concerned about the cumulative effects of sediment and leachate, that there might be a long term risk and long term effects. She lacked confidence in the "engineered mitigation to prevent during construction and operation". Ms Sherard was dismissive of the assessments that had been done within "relevant guidelines". In her view they are "legislative" assessments which differ to what kaitiaki see on the ground, and referring to Hemi and Tumanako's experience,.
63. Mr Pihema pointed out the key point for him was that no one knows with any actual certainty what is going to happen under the landfill but that it is Ngāti Manuhiri and Ngāti Whātua who have to live with those consequences. In supporting Mr Pihema, Mr Andrew Brown reiterated the concerns raised by Mr Pihema highlighting the risk management inherent in placing a landfill site above a major aquifer when the experts are not decided on what the consequences might be, because in his view, there is no way of actually knowing prior and in advance of what's going on, there's no way of actually knowing what will happen in the future. He noted the reliance on the long-term integrity of the engineering structure, over a period of decades and hundreds of years to contain that, long beyond the period whereby one would suffer any operational incentive to keep the landfill going and beyond the period of a consenting regime.
64. That sense of connection and responsibility they described to us is, from a cultural perspective, clearly and inextricably linked to their health and welfare. As Mr Alan Riwaka noted,

"The risks and the impacts associated with establishing this landfill are just too great when you consider just how important Kaipara Moana is to our people, it is everything. If something happens to that place I don't know what our people will do. I don't know how to put on this table, more than already has [been put], just the importance of the whole of Kaipara Moana. In fact, the whole of our rohe. So

⁴ Kapea, W. Evidence in Chief, p. 7, para 2.18 (18 October 2020)

we don't want to see it chopped up. The Hōteio is part of this korero and it should never be chopped off to try and be made something different."

65. Counsel emphasised that in terms of risk, not only was it about the issue of risk in terms of 'low probability, high impact', but it was also about the ongoing risks for the mana whenua groups, intergenerationally, for the future.
66. In Mr Pou's submission, *"How strongly mana whenua feel about the potential for something adverse to occur, should be considered in an evaluation of risk taking into account the importance of their waterways to them and the vulnerability of the Kaipara Moana which as a taonga of such significance, cannot be placed in a position of risk."* They required conclusive evidence that for the life of the landfill, that risk will be and remain non-existent.

Conclusion on Risk

67. As Counsel for Ngāti Manuhiri and Te Rūnanga submitted, risk refers to probability and consequence. While the RMA is not a 'no-risk' Statute, tolerance for risk must be contextual where it is relevant to consider the values that may be affected, both tangible and intangible. Counsel submitted that given the uncertainty in modelling risk, the Commissioners' risk assessment should be qualitative as well as quantitative. Referring to Ms Tokerangi's evidence, Counsel noted that because of the sensitivity of what is at stake, the values at stake, that is part of a classic definition of risk which is both probability, likelihood and consequence and in this case it is matters of national importance that are at stake.
68. I do not agree that in determining the risk to be taken into account, the "predicted low risk of physical effects" is based solely on the technical evidence to both identify physical effect and measure the risk to those effects on taonga (Te Awa Hōteio and Kaipara Moana). It is noted that the technical experts who considered 'risk' gave no weight to the Cultural Values Assessments and the importance of those taonga to Mana Whenua particularly given the vulnerability of those taonga and the long term potential effects.
69. I do not accept there are "few if any manifest physical cultural effects." The cultural effects have been assessed within a cultural framework and assessed as significantly adverse (refer to the section on Cultural effects). Noting the reference to the *Taumarere* case, Counsel for Ngāti Manuhiri emphasised that it was precedent for the fact that you can have harm to cultural beliefs without there being any 'actual' harm as determined by technical western standards. Mr Pou noted that the case looked at the effects of wastewater going over places where people were sourcing their food and the fact that although it was the cleanest discharge that could ever go out, that did not disturb the perception that it is still wastewater going over food. Another example was that you can treat water to drinkable standards such that people can drink it but that might still be considered harmful to Māori and an adverse effect on their cultural values.
70. I do not consider the risk identified by mana whenua is limited to an 'awareness of a risk'. The Mana Whenua groups have provided an assessment of the application against their identified values and identified the effects on those values. That

evidence is uncontested but for the evidence of Mr Kapea who notes a similar belief as the other mana whenua submitters, that you don't do that to Papatūānuku. Accordingly, the effect of placing a landfill in this location is more than awareness of risk but an actual physical tangible and measurable effect on their values, that being an adverse impact on their cultural values in terms of their whakawhanaungatanga with Papatūānuku and their ability or potential inability to exercise kaitiakitanga, to take care of her.

71. Mana Whenua have stated that their relationship with Papatūānuku in this part of their rohe can not be recognised and provided for in a way that would be consistent with their long established culture and traditions. It is not simply a 'perception' but a genuine and widely held belief. The subsequent effects on their culture and traditions to the extent that they will no longer continue to carry them out in ways they may have previously, is a tangible and measurable effect. One can measure the extent to which members of each respective iwi, hapū, marae grouping currently carry out those practices and the changes to that in the short and long term future bearing in mind this landfill will be there well beyond the 35 year consent – the evidence re the liner identifying 700 years. For the iwi that is a burden that can not be carried by them or their taonga given the vulnerable state of that taonga at present in terms of Te Awa Hōteu and the Kaipara Moana. There is also an adverse intangible, spiritual effect that arises from that as reflected in evidence from mana whenua members to the extent such 'mamae' is reflected in the state of the iwi and the state of the person. It is the hauora of the river and the environment in which the landfill is placed that is at risk.
72. I accept, as Mr Gardner pointed out, there needs to be some sort of societal input into what are considered to be tolerable risks and that input must also consider the sensitivity of the receiving environment, including the cultural values associated with it.
73. If it is for the Plan and consent process to determine what combination of probability and consequence is tolerable or intolerable then we must arguably take some direction from the AUP's policy which seeks to avoid the adverse effects of landfill discharges and the effects of a new landfill. The AUP is operative and no one has challenged this provision (E13.3(4)), nor has the Applicant sought to amend this provision in their proposed plan change (PPC42).
74. The technical evidence is that the appropriate measure for the assessment of risk should be ALARP (as low as reasonably practicable). When considering this alongside the High Court's findings in *Davidson*, we must also "take into account" potential effects on the environment - remembering the definition of environment includes physical and spiritual aspects. As the Court stated, "potential" denotes something other than proof and can not be assessed on the balance of probabilities. According to the High Court, the assessment of potential effects then depends on an evaluation of all of the evidence (including the legitimate cultural effects assessments we were provided by Mana Whenua) but does not depend on "proving that potential effect will more likely than not occur."
75. Accordingly, I consider that whether a risk may be tolerated depends on the particular circumstances and needs to consider societal acceptance of that including

consideration of the 'costs' to the community and in terms of mana whenua, the cost to their relationship, all of which may lower the threshold for risk essentially or rather make something that may have been 'tolerable' thereby 'intolerable'. On this basis, I find that the risks associated with the proposal are unacceptable.

Effects on freshwater and terrestrial ecology

The majority findings and point of divergence

76. In terms of overall loss of aquatic habitat, I do not agree with the majority that the effects arising from the permanent loss of stream channels and associated habitat, have been appropriately assessed and adequately offset. To that extent I do not accept that the overall package of ecological mitigation, offsets and compensation sufficiently addresses the effects of the proposal; particularly the uncertainty of the outcomes of those measures.
77. While I do accept the direct impacts on biota (in particular frogs) will be minimised to a practicable minimum, I do not accept that that is the appropriate standard when dealing with threatened or at risk taonga species. I note further that there was little consideration given by the technical experts for the applicant and the Council as to the importance of taonga species to mana whenua particularly in relation to the Hochstetter's frog which is recognised as being of some importance to Ngāti Manuhiri⁵. These are matters that should have been considered in any qualitative assessment in determining whether or not the impacts on these species is acceptable.

A discussion of the evidence

78. I do not agree with the applicant's approach on the matter of ephemeral streams and stream loss and I give weight to the evidence of Ms McArthur, Dr Maseyk and Dr Clearwater for the reasons set out below under the Offsite Offset section. I also refer to Ms McArthur's comments on the magnitude of injury and mortality effects on aquatic fauna. Ms McArthur did not agree with Ms Quinn that the effects on aquatic fauna are 'low' in terms of mortality and injury resulting from stream infilling with mitigation by fish and megainvertebrate (kōura and kākahi) salvage and relocation. Ms McArthur noted that she held this view for the following reasons.

"i) Long-term relocation success is unproven and is not guaranteed for fish, kōura or kākahi.

ii) Access to many of the streams for salvage will be very difficult and, in some cases, impossible - I base this view on my site visit experience.

⁵ Note that the Hochstetter's frog (pēpeke) is identified in the Statutory Acknowledgement (SA) which applies to Mount Tamahunga, as shown on deed plan OTS-125-11. The SA states that, "Maunga Tamahunga is also valued as an important ecological area within the Ngati Manuhiri rohe as it contains areas of unmodified forest and is the home of significant bird species like the kaka, kakariki and miromiro, and the pepeke or Hochstetter's frog.

- iii) Mortality and injury of macroinvertebrates is not accounted for in the fauna effects assessment. Whilst I do not propose relocation of macroinvertebrates is practical, I do think their losses should be counted.”⁶
79. Tied to that is the recognition of the contribution of those habitats to ecosystem health and the significance of those issues for mana whenua in terms of taonga species, their relationship to those species and the mauri of those species and habitats. When considering the importance of these things to mana whenua and in terms of Part 2 RMA, those assessments must follow best practice particularly given some of the species are threatened.
80. I do not agree that it is sufficient to minimise the impacts on biota (in particular frogs) to a practicable minimum and acceptable extent given their at risk status. The irreplaceability of the frogs, and the unacceptability of their loss was highlighted by DOCs frog expert.⁷ Forest & Bird also emphasised the impact on the frogs as a key concern noting the lack of evidence that translocation works for frogs and the uncertainty as to what impact the removal of the frogs from within the footprint will have on the long term survival of that population. Forest & Bird did not consider the applicant’s adaptive approach was appropriate without robust baseline information, adequate monitoring and evidence of successful outcomes which would avoid adverse effects on the survival of Hochstetter’s frogs in this part of Auckland. In their view, allowing for such information to be provided later, via a management plan, effectively delegates responsibility to making a decision on the potential adverse effects until after grant of consent. They submitted it was not appropriate to grant consent on this basis.⁸
81. I refer to Ms McArthur’s evidence on baseline threats to aquatic ecosystems and her conclusion that while she largely agreed with the effects assessments provided, those effects are not referenced against the background threats to aquatic life, including: the high proportion of threatened and at risk aquatic taxa in Aotearoa New Zealand, climate change vulnerability of taonga species or cumulative loss of habitat at the regional or national scales.”⁹
82. Accordingly, I find that there will be a permanent loss of stream channels and associated habitat which is not properly calculated, with effects that have not been appropriately assessed and will not be adequately offset (see discussion below).

Offsite offset

83. I refer to and adopt paragraphs 262-270 of the majority decision. I do not agree with the majority finding that the package of works proposed by the applicant will appropriately offset the loss of stream habitat nor that the proposed consent conditions provide sufficient surety that those outcomes will be achieved. As those effects will not be adequately offset or compensated, I find that the matters which

⁶ Ms Kate McArthur, Summary of Speaking Notes, 7 December 2020, p. 2

⁷ Evidence in Chief of Dr Germano at [73]

⁸ Forest & Bird, Hearing Presentation 3 December 2020, pp. 3-4

⁹ Ibid at p. 2

concerned the expert witnesses for other parties, in particular the evidence of Ms McArthur, Dr Clearwater and Dr Maseyk, are sufficiently credible to attract weight.

84. The Rūnanga assessment is the proposal will cause irreparable damage to the rights, interests, relationships and values that Ngāti Whātua nui tonu have with their ancestral lands, waters, places and taonga within the Dome Valley area and the wider rohe. This harm, including biodiversity and impacts to waterways and the wellbeing of water (including Te Mana o te Wai) cannot be offset, mitigated or avoided. They consider the proposal creates unacceptable risks to their taonga waterways, aquifers, Kaipara Moana, hapū, whānau and marae.
85. Ngāti Manuhiri state that biodiversity and the health of their ecosystems are of high importance to them, that humans and the natural world including animals are viewed as interconnected and biodiversity is perceived as a part of the health and wellbeing of the iwi. Native flora and fauna are considered part of their heritage and culture and continued access and use is important in the maintenance of their culture and traditions. They emphasised that indigenous species, and the habitats that support them, need to be protected and conserved both for their own intrinsic qualities and for future generations. They advocate for the protection of natural habitats/ecosystems including bush, riparian and waterbodies (tributaries, wetlands); indicate a preference for no loss of native species, particularly if rare or threatened in any way and support the enhancement of natural habitats/ecosystems to the benefit of native flora and fauna.
86. Members of the Auckland Conservation Board emphasised their concern that the proposed landfill will put threatened species at further risk. They noted their endorsement of the submissions of the Department of Conservation and iwi and spoke to their concerns as to the range of adverse effects on ecological values which they considered were highly impacted by the proposal. They considered this an area of extremely high biodiversity, significant cultural values for mana whenua and freshwater values. In terms of threatened species they referred to the NZ long-tailed bat, the Australasian bittern and the Hochstetter's frog whilst also noting their concern regarding habitat fragmentation and potential risks to other species including the "at risk" black shag, fernbird, NZ pipit and spotless crane.
87. Ms McArthur considered that there remained significant disagreement between the experts that the effects of the proposal will be appropriately offset or compensated and that a 'net-gain' will be realised. She was not confident that the offsetting and compensation proposal adequately addresses the ecological effects (or that it will result in a net gain) for the following reasons:
 - I. "The SEV (and associated ECR calculation) only account for lost ecological function. The SEV cannot and does not account for irreversible and permanent loss of physical habitat (i.e. stream length; as per Storey et al. 2011b).
 - II. The SEV does not specifically account for effects on fauna, particularly with respect to at risk or threatened species.
 - III. The SEV (and ECR) is a model which provides information to assist in developing an offset but is not an offset itself and does not provide for all the principles of biodiversity offsetting (as discussed by Dr Maseyk).

- IV. Not all of the residual effects of the proposal are well-quantified and thus are not accounted for in the offset/compensation (e.g., my disagreement with the 'low' magnitude of effects on aquatic fauna described above).
- V. Offsets proposed may not be additional to what is already required or planned to occur. For example, the s360 RMA stock exclusion regulations require fencing and three metre setbacks for rivers with beds greater than one metre wide for some stock types and land slopes, any offset should be additional to the requirements of the regulations. Additionally, the Kaipara Moana restoration is expected to include riparian enhancement, as discussed by tangata whenua speakers to the hearing.
- VI. I am not convinced that there is a 'like-for-like' exchange between the streams in the valleys proposed for infilling and those proposed for enhancement (both onsite and outside the project footprint)."¹⁰

88. She added that with respect to like-for-like, her observations at the site visit were that the farmland streams proposed for enhancement are very different in character to those proposed to be infilled. Key differences include gradient and elevation, hydrological regime, substrate type and morphology. The farmland streams are very low gradient, will have significantly different hydrological regimes, have soft mud substrates as opposed to bedrock and organic detritus in the valley streams, and the farm streams have been straightened and channelised, which means their instream habitat diversity is low. Because of these differences she concluded that there are likely to be differences in ecological structure, function, and aquatic communities between these streams.¹¹
89. For these reasons Ms McArthur stated that her confidence is low that the offset/compensation proposal will address all of the losses and effects adequately, and in her view finding suitable offsite streams for enhancement, that are not additional to regulatory requirements and planned restoration, will be very difficult. Notwithstanding this, it is her opinion that the significant quantum of loss of physical stream length cannot be offset.¹²
90. Dr Clearwater on behalf of the Director-General of Conservation drew a similar conclusion. She concluded that in considering the very high ecological values of the streams and wetlands within the Waste Management landholdings, and their proximity and high connectivity to a wide diversity of terrestrial and aquatic ecosystems within, and surrounding the landholdings – the principle of 'avoid' had not been adequately addressed in the site selection process.
91. She noted that stream loss calculations should include the loss of ephemeral streams resulting in a more significant loss of stream habitat and that shortcomings of the proposed off-setting and compensation mean that the principle of either, no net loss or net gain, is not likely to be met. Dr Clearwater also commented on the translocation

¹⁰ Kate McArthur, Speaking Notes 27 November 2020, pp. 2-3

¹¹ *Ibid*, at p. 3

¹² *Ibid*, at p. 3

of freshwater fauna from “reclaimed” streams stating that it “will do little to mitigate the “very high” impacts on freshwater fish, crayfish and mussels at the project site”.

92. In terms of stream habitat, particularly at Stream S will be permanently altered and degraded, by the Access Road and BEA construction and operation - despite the proposed mitigation activities.
93. Dr Clearwater stated that, “Despite best practice mitigation sedimentation is likely to significantly increase across the site and degrade freshwater habitat quality on-site and downstream in Te Awa Hōteu and the Kaipara.”
94. Referring to the NPS-FM 2020 she considered, “the loss of 1.16 ha of wetland is highly significant, and directly contradictory to the NPS-FM (as are other impacts of the proposal). The absence of detailed wetland restoration plans with specific biodiversity objectives, and the intention to plant pines around much of the remnant wetlands means that the outcome of proposed off-setting remains uncertain and concluded that the negative impacts on freshwater ecology and wetlands outlined in her evidence to be contrary to the Objectives and Policies of the NPS-FM.
95. Dr Maseyk concluded that the proposed effects management package reflects inadequate effort invested in exploring the feasibility for offsetting for a number of values and appears to jump straight to compensation. She noted her concern that the landfill proposal affects a sensitive environment that has a wealth of values, and that the proposed effects management package uses overly simplified and aggregated currencies which do not account for these values.
96. She agreed with the ecological experts for the applicant that many of these values are unlikely to be offset to a no net loss or net gain outcome, but considered this further underlines the confidence in the overall outcomes of the proposed effects management package, and its adequacy, are unfounded.
97. She stated her strongly held view that much greater certainty and understanding of the anticipated gains (as opposed to the actions to be taken) is required and that this will also improve the transparency of the trade and allow for the quantum of residual and permanent biodiversity losses to be explicit. She found none of the required certainty or additional detail in the proposed draft management plans or consent conditions.
98. Dr Maseyk noted that a number of biodiversity and ecological values remain inadequately addressed (e.g., permanent loss of stream length, aquatic fauna, terrestrial species of concern etc.) and further noted that she had remaining concerns that the additionality of anticipated outcomes (from offsets or compensation) have not been adequately evaluated, further obscuring the magnitude of the actual gain the proposed effects management package will deliver.
99. She reiterated that currently the emphasis is on actions not outcomes and that it had also overstated gains. For example, creating new riparian habitat of the value (i.e., condition, composition) that is adequate to balance losses will require fencing to exclude stock, planting to create multi-tier, diverse, native riparian habitat, and pest animal and plant control to maintain condition. Thus, all these actions are required

collectively to deliver the desired outcome. Further, legal protection is an appropriate legal mechanism to secure the offset in perpetuity (another key principle of offsetting) but, in this example, does not contribute to gains in biodiversity values.

100. Dr Maseyk concluded by stating that she had not shifted from her previous conclusion as regards the inadequacy of the proposed effects management package as set out in her Statement of Evidence and consequently did not share the confidence expressed by the ecological experts for the applicant. She further noted that effects management is not the place to be relying on experimentation.¹³
101. While Mr Lowe, on behalf of Council, considered his earlier concerns had now been addressed by the applicant, he maintained that best practice is to understand the location and details of offsite offset actions prior to granting consent; so that a full assessment can be undertaken at that time and the offset quantum locked in. He stated however, that in the absence of that information, the approach proposed by the applicant is considered appropriate.¹⁴
102. He pointed to the fact that submissions had highlighted that the applicant's Qualitative Biodiversity Compensation Model (QBCM) (based on the Biodiversity Offset Accounting Model (BOAM)) is highly aggregated, qualitative and subjective¹⁵ and considered, notwithstanding some nuances with effects management terminology, he largely agreed with these statements. However, he was still of the opinion that while the applicant had not followed best practice guidance in this regard, he believed (with respect to wetland habitat) the applicant had taken a conservative approach to applying the qualitative scores.
103. Forest & Bird noted that offsetting does not necessarily protect as adverse effects on the specific values adversely affected are not avoided and options for like for like replacement of biodiversity values can be limited. They submitted that even a successful relocation of a species will have adverse effects that are not avoided, at least in the short term as the species adapts to a new location. They considered the offsetting proposed by relocating the Hochstetter's frog was particularly concerning. Forest & Bird also noted they remained seriously concerned about the adequacy of the offset enhancement provisions in relation to freshwater habitats. They agreed with Mr Lowe that despite the applicant investigating the extent of nearby streams that could be enhanced, "uncertainty still remains, as the presence of watercourse does not necessarily equate to third party agreements." This is of concern given the majority of residual effects from stream reclamation are proposed to be addressed offsite at unknown sites.¹⁶
104. In terms of sedimentation Ms McArthur also considered that the sediment generation from the site is underestimated and that the baseline suspended sediment condition had been overestimated.

¹³ Fleur Maseyk, Summary of oral evidence to the Hearing Panel, 7 December 2020, p. 5.

¹⁴ Technical Memorandum, Mark Lowe, 14 December 2020, paras 10-11.

¹⁵ EIC of Dr Maseyk paras 75-82 & Ms Corkery paras 101 - 115

¹⁶ Forest & Bird Hearing Presentation 3 December 2020, pp. 2-3

Sedimentation

105. I refer to and adopt paras 209-243 of the majority decision. I disagree with their findings that the proposal will minimise sediment discharges to the Hōteō Awa and Kaipara Moana to an acceptable level through the adoption of best management practices in combination with riparian restoration.
106. I accept the evidence of Ms McArthur that the sediment generation from the site is underestimated and that the baseline suspended sediment condition has been over estimated. Ms McArthur's assessment that sediment discharges are likely to double the sediment concentrations in streams and will contribute to increased sedimentation in the Hōteō Awa and Kaipara Moana remains an area of concern. She found it difficult to accept Mr Van de Munckhof's statement that the operation of the site will generate less sediment than a bush-clad Auckland stream or that the increase in sediment from the site will be less than 1% above current sediment losses. In this respect she noted that the current farming operation is very 'tidy' and that she did not see any evidence of farming practices or conditions that would generate significant sediment losses, particularly given that the majority of high slope areas of the farm are vegetated.¹⁷ I note also Ms Harte's acknowledgment that there is some uncertainty regarding the accuracy of baseline sediment yields and sediment removal efficiency inherent with using models and estimates.¹⁸
107. Ms McArthur also noted that the generation of sediment from forestry harvest is cyclic in nature and that sediment losses are generally concentrated over an eight to ten year window following harvest, and that the effects are reversible (i.e. ecological values can recover and have at the site). Ms McArthur was not confident that the proposed deposited sediment trigger values and limits for suspended sediment (TSS) were adequate to protect in-stream ecosystems.¹⁹
108. Dr Clearwater also considered that runoff from the road would alter stream hydrology and made specific reference to the potential effects of stormwater quality on kākahi, which she stated to be highly sensitive to fine sediments in their juvenile stage, as well as being sensitive to the common contaminants copper and ammonia.²⁰
109. On this basis I agree that sediment discharges will compromise existing aspirations to improve the ecological health of Te Awa Hōteō in particular and the Kaipara Moana.

Conclusion on ecology

110. In closings, Counsel for Waste Management referred to the Environment Court's consideration of the question of certainty of offsite offsetting in the cases relating to Buller Coal Limited's Escarpment Mine project on the West Coast.²¹ The Environment Court in that case was willing to grant consent with an amended condition providing that Buller Coal undertook best endeavours to obtain a legal protection over the offsetting land, with a certification process for the relevant Council of the protection

¹⁷ Speaking Notes Summary, K. McArthur, p. 2

¹⁸ Technical Memorandum, F. Harte, 14 December 2020, p. 9

¹⁹ Ibid

²⁰ EIC of Susan Clearwater [70] and [75]

²¹ Waste Management, Closing submissions, para 7.9

obtained, or to accept Buller Coal had genuinely exhausted negotiations with DOC and MBIE. Counsel submitted the case was an example that the Court did not consider it necessary for negotiations to have been advanced with other landholders in order to be satisfied with the certainty of offsite offsetting programmes. In any event, Counsel also submitted that Waste Management has provided safeguards which have been developed to increase the certainty of the offsite elements of the effects management package and go beyond those offered by Buller Coal in those cases, and mean a "best endeavours" style condition is not required.

111. I consider this case provides a different set of challenges. The Buller Coal case was certain as to the specific site (and landholders) for the offset programme. In this case the land parcels are yet to be identified – while Ms Quinn is confident it will be within the “Kaipara catchment” (noting the large size of the catchment), that is insufficient certainty for Mana Whenua and Ngāti Manuhiri in particular, who have identified the adverse effects on their relationship with their ancestral lands given the placement of the landfill in Te Awa Hōteoro and what they consider is a loss of mauri both in terms of their cultural values and the values they place on biodiversity and freshwater including taonga species. That such offset may occur outside those ancestral lands and indeed outside the Hōteoro catchment does little if anything to mitigate those effects. Given their relationship to the natural and physical resources in this area, any offset/mitigation needs to be directly relevant to the loss.
112. It is my view that effects on freshwater and terrestrial ecology, including aquatic ecology, have not been considered by the relevant technical experts called by the Applicant or Council, through a ‘cultural lens’ or with any regard to the cultural values assessments. Furthermore, I do not accept that the overall package of ecological mitigation, offsets and compensation sufficiently addresses the effects of the proposal; particularly the uncertainty of the outcomes of those measures.
113. Based on the above, I find that the loss of stream habitat will not be adequately offset or appropriately compensated by the package of works proposed by the applicant within and beyond the Waste Management land. I do not consider the proposed consent conditions provide sufficient surety that those outcomes will be achieved.

Landscape and visual effects

114. I refer to section 15.14 of the majority decision and note that I do not disagree with the discussion and findings therein.
115. I do wish to make some observations in relation to the issue of ‘cultural landscape’ as it arose in technical evidence presented by landscape experts.
116. Mr Goodwin, on behalf of the applicant, noted in his evidence that there was one outstanding issue that had been raised in submissions, in Council’s specialist landscape report and the two hearing reports that he had been unable to confirm in evidence, which was the potential for cultural landscape effects.²² He stated,

²² Statement of Evidence of John Goodwin, Landscape and Visual, 8 October 2020

“As outlined in paragraph 8.7 of my evidence while I acknowledge that there are cultural values associated with landform, waterbodies, wetlands, vegetation and habitats within and surrounding the landholding, without detailed information on the specific location of these values it is difficult for me to ascertain the potential effects on such values.”²³

117. Mr Goodwin pointed to the evidence of Mr Kennedy and Mr Horide and their engagement with mana whenua over a range of initiatives in relation to cultural landscape values including ridgeline walkways, pou, interpretation panels and input into plant species. He referred to the potential establishment of a Kaitiaki Forum and noted that he anticipated that this mechanism will provide the opportunity for mana whenua to identify landscapes of cultural importance to Waste Management and agree a process for managing any potential effects on these sites or areas.²⁴

118. In his technical review, Mr Kensington, referred to the submissions in opposition regarding adverse effects on the cultural landscape. He stated that,

“The submissions from mana whenua have raised an important issue that requires consideration when determining landscape effects. I note that the Application ALVE²⁵ does not address cultural landscape effects; however, I understand that the applicant has engaged with mana whenua submitters to better understand the specific cultural landscape effects that have arisen and potentially realise appropriate mitigation measures (in the form of acknowledgement, interpretation, access and plant selection).

It is therefore difficult for me to respond to this issue at present because I do not currently have enough understanding of the issues raised in the submissions and I have not been involved with any relevant engagement, in order to make an informed assessment of the proposal’s cultural landscape effects.

I understand that the applicant will be responding to this issue through submissions and evidence.”²⁶

119. In his final assessment presented at the hearing on 16 December 2020 Mr Kensington noted that he had relied on the officers (Mr Mark Ross and Mr Ryan Bradley) to pass on any relevant evidence which arose during the hearing and which was related to his area of expertise. He stated, “however, you have indicated that no new matters or information of direct relevance has been raised for my consideration”.²⁷ Mr Kensington then noted in terms of cultural landscape:

²³ Ibid, p.2, para 1.4

²⁴ Ibid

²⁵ See Technical Report H – ‘Auckland Regional Landfill, Landscape and Visual Assessment’, prepared by Boffa Miskell, dated 24 May 2019, Revision/Version 8 (‘Application ALVE’); and Peter Kensington, Technical Review, 17 September 2020

²⁶ Peter Kensington, Technical Review, 17 September 2020, see pp. 393-394 s42A Report

²⁷ Assessment of landscape and visual effects summary after hearing evidence / submissions, P. Kensington, 16 December 2020, p. 1, para 2

“You have advised that submitters have spoken to the overall cultural landscape, in the context of the Awa Hōteio catchment and connections with Kaipara Moana. You have advised that no submitter has confirmed that the site and immediate surroundings is part of an identified cultural landscape.”²⁸

120. Mr Kensington noted that as his earlier memo had left a question mark over this issue and as he did not have enough information to be determinative, he was not comfortable making any further comment on cultural landscape.
121. When it was put to Mr Kensington that the Cultural Values Assessments all identify the significance of Te Awa Hōteio and surrounding maunga within a cultural landscape, he noted that he had an awareness of that feature (Te Awa Hōteio) in the landscape but had left it to the ecological experts to address. He noted that it really “relies on mana whenua to record why the values are there and what that means.”
122. On the basis of the evidence as outlined above, I do not consider that either of the witnesses has provided an appropriate assessment of the cultural landscape as it is seen by mana whenua in terms of their values and to that extent the evidence from mana whenua regarding their cultural landscape, the values they attribute to it and the effects on that landscape remains uncontested.

Positive effects on the environment

The majority findings and point of divergence

123. I refer to and adopt paras 142-147 and part para 148, of the majority decision.
124. I note that the majority did not agree with the evidence of Mr Foster and considered that we had heard a range of statements for the applicant which addressed alternatives including rebuttal evidence from Mr Copeland. The majority found that on the evidence, a new landfill is required to provide for the future needs of Auckland and will contribute to the efficient operation of the region. I disagree with that finding.
125. I did find some agreement with Mr Foster, particularly insofar as his submission highlighted the insufficient assessment of alternatives and the proposal being contrary to Council’s planning for waste. That submission was similar to the submissions by Mana Whenua who also criticised the adequacy of consideration given to alternative locations for the landfill and inconsistency with Auckland’s Waste Management and Minimisation Plan (2018).
126. I expressed some caution around the argument as to ‘necessity’, the landfill being required to provide for “future needs”, on the basis that as the application we are dealing with is not a designation, we did not consider ‘necessity’ to the extent that would be required when considering an NOR in accordance with s.171(1)(c).
127. Accordingly, as we are not making ‘findings’ on necessity on those terms the findings that a new refuse landfill facility is needed must be qualified. I consider, that what can be determined on the evidence that was put to us is that:-

²⁸ Ibid at p. 2, para 3

- a. Auckland needs a facility to manage waste; and
 - b. Based on the technical evidence presented to us by the applicant, even if one contemplates Waste-Energy that will still require a 'landfill' of some type.
128. I was not persuaded by the evidence of the applicant that that facility needs to be a landfill and that that landfill needs to be in this particular location and at the proposed scale, extent and form proposed by the applicant.
129. I note that the s.104(6) consideration later on in this decision is also relevant to considering positive effects.

RELEVANT STANDARDS, POLICY STATEMENTS AND PLANS

Summary of Statutory Planning Analysis And Findings

130. I refer to and adopt paras 594-600 of the majority decision in relation to the relevant environmental standards, policy statements and plans and the relevant objectives and policies in contention in relation to s.104D RMA.
131. As noted in the majority decision, the six important sets of objectives and policies that relate specifically to the establishment and operation of the landfill that were in contention are:
- Landfill discharges (Chapter E13)
 - Stream reclamation (E3)
 - Diversion and discharge of stormwater (E1 and E8)
 - Sediment discharges (E11 and E12)
 - Biodiversity (E15)
 - Landfills as infrastructure (E26)

Chapter E13: Cleanfills, managed fills and landfills

E13.2. Objectives: [rp]

(1) Cleanfills, managed fills and landfills are sited, designed and operated so that adverse effects on the environment, are avoided, remedied or mitigated.

(2) Human health is protected from the adverse effects of operational or closed cleanfills, managed fills and landfills.

E13.3 Policies:

(1) Avoid significant adverse effects and remedy or mitigate other adverse effects of landfills on lakes, rivers, streams, wetlands, groundwater and the coastal marine area.

(2) Require landfills to be sited, and where appropriate, designed and constructed, to avoid the risk of land instability.

(3) Require cleanfills, managed fills and landfills to be designed and operated in accordance with relevant industry best practice.

(4) Avoid adverse effects from new landfills.

132. I accept that this Chapter being noted as [rp] means that consideration of the obs/pols and rules under this Chapter is limited to “the control of discharges to land, air and water”, but I consider Objective 1 must also be relevant. It’s focus is on the siting, design and operation of the landfill such that any adverse effects on the environment, are avoided, remedied or mitigated.
133. Policy 4 is clearly a directive policy. “(4) *Avoid adverse effects from new landfills.*”
134. Mana Whenua contend that the effect of this new landfill is significantly adverse. Their argument that there is a low risk but high impact, is relevant to this policy. The risk of leachate entering the waterways and Te Awa Hōteu is low according to the experts and not tolerable according to Mana Whenua. Accordingly, this directive policy of avoiding adverse effects from “new landfills” must be given weight in assessing the application against the policies in any s104D(1)(b) consideration.
135. Accordingly, the Proposal is contrary to Policy E13.3(4) which seeks to avoid adverse effects from new landfills. This proposal creates adverse effects on streams, wetland, habitat and endangered species which cannot be avoided if the proposed landfill is established on this site.
136. Further in terms of ecology, on the basis that the effects mitigation package is insufficient to address the adverse effects of the landfill on streams (eg, stream loss), wetland, habitat and endangered species which can not be avoided if the proposed landfill is established on this site, then that too is inconsistent with this policy. Ms Young on behalf of the Director-General of Conservation also considered, based on evidence from DOC experts that the proposal is contrary to regional plan objectives and policies E13.2 (1), E13.3(1) and E13.3(4). She stated that, “The proposed suite of plans and offsetting and compensation package provided by the Applicant is not sufficient to address unavoidable adverse effects. As stated by the Applicant the adverse effects of the landfill on rivers, streams and wetlands is unavoidable.” It was her view that the application is contrary to some key objectives and policies that provide for and enable infrastructure provided that adverse effects of that infrastructure are avoided, remedied or mitigated.²⁹
137. I agree with the majority that Policy 4’s avoidance stance reflects Objective 2, namely that human health is protected, which is a matter related to discharges. However, Objective 1 must be equally applicable and the issue of the potential impact of discharges on ecology in particular, equally relevant.
138. Based on my findings as to effects on ecology, I am not satisfied that Objective E13.2(1) and policies E13.3(1) and E13.3(4) can be met. The siting and design of the landfill is not sufficient to address unavoidable adverse effects and does not mitigate the adverse effects of the landfill on rivers, streams and wetlands and the proposed suite of plans, offsetting and compensation package provided by the applicant is both uncertain and insufficient. Further in terms of the effects on Mana Whenua and their values in relation to the freshwater environment; significant adverse effects on the environment are not avoided.

²⁹ Evidence of Amy Young, Summary of EiC, on behalf of the Director-General of Conservation

Chapter E3: Streams

139. I refer to and adopt paras 612-618 of the majority decision setting out some of the relevant objective and policies under this Chapter.
140. I agree that Chapter E3 sets out a range of objectives that are strongly protective (E3.2.1). I note they also encourage more positive outcomes such as restoration, maintenance and enhancement (E3.2.1):
- (2) Auckland's lakes, rivers, streams and wetlands are restored, maintained or enhanced.*
141. Policy 5 is a directive policy and states:
- (5) Avoid significant adverse effects, and avoid, remedy or mitigate other adverse effects of activities in, on, under or over the beds of lakes, rivers, streams or wetlands on:*
- (a) the mauri of the freshwater environment; and*
- (b) Mana Whenua values in relation to the freshwater environment.*
142. On the basis of my findings in relation to cultural values and ecology particularly in terms of the loss of streams and impacts on aquatic ecology, I consider the proposal is contrary to this directive policy as it does not avoid significant adverse effects and does not mitigate other adverse effects, on the mauri of the freshwater environment and Mana Whenua values in relation to the freshwater environment. Further, it does not mitigate other adverse effects.
143. Policy 13 requires the reclamation and drainage of streams be avoided “unless all of the following apply” and includes:
- “...
(c) the activity avoids significant adverse effects and avoids, remedies or mitigates other adverse effects on Mana Whenua values associated with freshwater resources, including wāhi tapu, wāhi taonga and mahinga kai.”
144. The questions the majority sought to answer in relation to Policy 13 are:
- Are significant effects on Mana Whenua values associated with freshwater resources avoided (Policy 13(c))? Are other freshwater effects remedied or mitigated? Are residual effects off-set or compensated?*
145. Policy 13 requires the avoidance of significant adverse effects on Mana Whenua values associated with freshwater resources including wāhi tapu, wāhi taonga and mahinga kai; and requires the avoidance, remediation or mitigation of other adverse effects on those values. It is important to note that it is not limited to a consideration only of the effects on wāhi tapu, wāhi taonga and mahinga kai. The NPS-FM requires a wider set of cultural values to be taken into account with its reference in Policy 1 that freshwater is to be managed in a way that gives effect to Te Mana o te Wai. The

evidence we heard from Mana Whenua clearly identified the values they associate with the freshwater resources affected by this Proposal and their evidence is that those effects can not be avoided, remedied or mitigated.

146. I refer to my earlier findings as to the effects on cultural values and in particular the relationship mana whenua have to their ancestral lands, water, sites, waahi tapu, and other taonga and the wider identified cultural values associated with freshwater resources. I also refer to my earlier analysis and findings in relation to ecological effects, that the effects mitigation package is insufficient to address the adverse effects of the landfill on rivers, streams (eg, stream loss), wetland, habitat and endangered species which can not be avoided if the proposed landfill is established on this site.
147. Accordingly, given the absolute loss of values (ecological and cultural) when streams are infilled, I consider the significant adverse effects will not be avoided and adverse effects on these values cannot be mitigated. The Proposal is contrary to this directive policy.
148. Policy 18, added to the Chapter by the NPS-FM, requires that:

Rivers (18)

The loss of river extent and values is avoided, unless the council is satisfied:

(a) that there is a functional need for the activity in that location; and

(b) the effects of the activity are managed by applying the effects management hierarchy.

149. My consideration of policies 13 and 18 differs to that of the majority. I note that while we are to consider the application against both policies 13 and 18 to the extent the new Policy 18 is now part of the AUP, we are not required to consider the objective of the NPS-FM 2020 to the extent we might be giving effect to it. We are for the purposes of our s104(1)(b)(iii) assessment required to have regard to the NPS-FM and thereby its core Objective but that is different to the requirement to consider the application against both policies 13 and new policy 18 for the purposes of our s.104D assessment.

Is there a functional need?

150. Based on the definition of 'functional need' under the NPS-FM 2020, I do not accept that the landfill has a functional need to traverse, locate or operate in this particular environment and I do not agree that the activity can only occur in that environment. While I accept on the evidence presented to us that the applicant has undertaken an assessment of potential alternative sites in the northern part of the region and has not been able to identify a practicable alternative that avoids infilling a valley, for the reasons stated later in this decision, I do not accept that that assessment gave proper consideration to ecological and cultural matters (both matters of national importance) as part of the site selection process.

151. On that basis I do not agree that the activity of landfilling needs to occur in this location and at the scale, form and extent sought by the applicant.
152. For these reasons I consider the Proposal is contrary to Policy 18 given that the loss of river extent and values is not avoided and I am not satisfied as to the functional need for a landfill in that location.
153. Given my conclusion on ecological effects, that the loss of stream habitat will not be adequately offset or appropriately compensated by the package of works proposed by the applicant within and beyond the Waste Management land and that the proposed consent conditions will not provide sufficient surety that those outcomes will be achieved, I can not accept that the effects of the activity are managed by applying the effects management hierarchy.

Chapter E8: Stormwater discharges

154. I refer to and adopt paras 647-649 of the majority decision.
155. Given the evidence from Mana Whenua and the witnesses on behalf of the Director-General as referred to elsewhere in this decision, I do not agree that the freshwater and sediment quality will be progressively improved over time in degraded areas nor that the mauri of freshwater can be progressively improved over time to enable traditional and cultural use of this resource by Mana Whenua particularly given the presence of the landfill beyond the 35 year consent and the potential effects for future generations. The proposal is not consistent with the E8 policies.

Chapters E 11 and E12: Land disturbance

156. I refer to my earlier findings that sediment discharges will compromise existing aspirations to improve the ecological health of Te Awa Hōteoro in particular and the Kaipara Moana. The issue for Mana Whenua is that the proposed earthworks activities will have a significant adverse effect on their cultural values, disrupting Papatūānuku, further reducing habitat and resource availability (kaimoana gathering).
157. I have already noted my disagreement in terms of the adverse impact on Te Awa Hōteoro as wāhi tapu, on the basis that the only evidence we have about the effects of discharges of treated sediment laden runoff on the Hōteoro as wāhi tapu, is from mana whenua and that evidence is uncontested. On the basis of my earlier findings as to the impact of the proposal on cultural values, I do not accept that land disturbance can be managed to “maintain the cultural and spiritual values of Mana Whenua in terms of land and water quality, preservation of wāhi tapu, and kaimoana gathering” as Policy 11.3.(2)(d) requires.
158. Furthermore, I note the inconsistencies with Policy 7, when having regard to the quality of the environment; with: significant adverse cultural effects on Te Awa Hōteoro (as noted elsewhere in this decision) unable to be avoided; and /or adverse cultural effects on Te Awa Hōteoro unable to be avoided, remedied or mitigated; particularly in this area where: there is a particularly important and relevant initiative by Mana Whenua (Policy 7(a)(ii)) such as the IKHMP; there was extensive and persuasive evidence of the importance of collection of fish and shellfish for consumption

consistent with cultural values and traditions; (7(a)(iii) and with a downstream receiving environment that is especially sensitive to sediment accumulation with the Hōteio being a major contributor (7(a)(v); where adverse effects on the ecological values which are unable to be avoided, mitigated or sufficiently offset and compensated (as I have previously found, noted elsewhere in this decision).

159. For the reasons outlined above, I find the Proposal both inconsistent with Policy E11.3(7) and contrary to Policy E11.3.2(d).

Chapter E15 Biodiversity

160. As I do not accept that the landfill is necessary infrastructure and that its location has been appropriately selected, I find the Proposal is inconsistent with the E15 provisions and that while the applicant has taken reasonable steps to avoid and minimise the loss of biodiversity, the residual effects still remain and are unable to be sufficiently offset or compensated with any certainty.
161. As Ms Young noted in evidence, Objective E15.2(1) requires that ecosystem services and indigenous biological diversity values, particularly in sensitive environments, and areas of contiguous indigenous vegetation cover, are maintained or enhanced while providing for appropriate subdivision, use and development. She noted that, “the proposed landfill footprint and associated activities including the access road will have an impact on the wetland systems on the site which provide habitat for native birds including threatened or endangered species, the landfill will permanently destroy habitat for Hochstetter’s frogs which will result in frog losses. The Consent Application proposes to remove indigenous vegetation and exotic vegetation which provide habitat for endangered long tail bat. The Consent Application is contrary to this objective.” I agree and I refer to my earlier findings on ecology above.

Chapter E26 Infrastructure

162. I agree with and adopt the minority discussion and findings in relation to Chapter E26.

SECTION 104D

163. Acknowledgment must be made of Ms Brabant’s comprehensive and helpful analysis of the Proposal against the relevant provisions of the NPS-FM and AUP. Her conclusions and consistency of the application of these documents was largely supported by Mr Ross as expert planning witness for the Council.
164. In her Statement of Rebuttal evidence (dated 4 Nov 2020) Ms Brabant recorded her position in terms of the “second gateway” and emphasised the importance of taking an overall assessment of all the relevant objectives and policies that apply to the application, that it would not be unusual for a non-complying activity to be contrary to at least one or two objectives and policies and that “contrary to” is a high bar that means repugnant or the opposite of, it does not mean that if a proposal is inconsistent with an objective or policy that it fails the test.
165. I refer to the submissions of Counsel for the Director-General of Conservation, Ms Troy Ulrich in determining whether or not the Proposal is contrary to the AUP

Provisions. I found Counsel's submissions particularly persuasive on this point. I accept that in assessing whether the Proposal meets the second arm of the gateway test, consideration must be given to whether the Proposal is "contrary to" the objectives and policies as a whole, as opposed to isolating out specific policies that the Proposal does or does not comply with.

166. In considering the second limb, I am persuaded by the mandatory language highlighted by the Court in *King Salmon* where put simply, avoid means avoid. The Court stated,

"...we consider that "avoid" has its ordinary meaning of "not allow" or "prevent the occurrence of". In the sequence "avoiding, remedying, or mitigating any adverse effects of activities on the environment" in s 5(2)(c), for example, it is difficult to see that "avoid" could sensibly bear any other meaning."

167. In Ms Ulrich's submission, the applicant effectively seeks to erode significant biodiversity values rather than protect them which she says is repugnant to B7.2 of the AUP, a policy Ms Young (on behalf of the Director-General) considers partly resonates with section 6(c) RMA.

168. Te Awa Hōteio and its surrounds, is a taonga and area of cultural significance to Ngāti Manuhiri and Ngāti Whātua as iwi who whakapapa to or hold customary interests with the place. The site and its associated values exist in a very real sense irrespective of its scheduled status in the AUP (or lack thereof), and the adverse effects from the siting of a landfill in this environment, together with any further potential risks of harm to its waterways, no matter how 'low' will impact on the wellbeing of mana whenua in the future.

169. The overall broad judgment approach is not appropriate in this case where the proposal is contrary to some key directive avoidance and protection policies that are central to determining the appropriateness of this application such that they sway the decision, even when considered against the other, more enabling, provisions of the AUP.

170. I do not consider the Proposal gets through the second gateway as it is contrary to the relevant cultural and ecological objectives and policies of the AUP as noted above.

S.104(1)(a) and s.104(1)(ab)

171. Given the reasons set out in respect of each category of effects assessed above, I find that the actual and potential effects on the environment of allowing the activity particularly in relation to effects on cultural values, cultural landscapes, ecology including biodiversity, freshwater and aquatic habitats and biota will be more than minor and can not be avoided, remedied, or acceptably mitigated, offset or compensated.

172. While I acknowledge the measures 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, I note that those positive effects must be considered against the necessity for the landfill in this particular location and at the scale, form and extent proposed.

173. If recourse is to be had to Part 2, as all Counsel suggested would be appropriate, then I find that I am fortified in my findings when considering Part 2 and those matters that are highlighted as matters of national importance at section 6 in particular.
174. Even if it is subsequently found that given the recent promulgation of the AUP recourse to Part 2 is not to be had, that would not alter my overall findings.

Regional Policy Statement 104(1)(b)

175. As noted in the AUP (B1.2), “‘Give effect’ means ‘implement’”. It is a strong directive. The hierarchy of policy statements and plans under the RMA makes it important that objectives and policies at a higher level are given effect at every lower level.
176. The AUP at B6.1 recognises issues of significance to Māori and to iwi authorities in the region including: recognising Te Tiriti and enabling the outcomes that Treaty settlement redress is intended to achieve (B6.1(1)); protecting Mana Whenua culture, landscapes and historic heritage (B6.1(2)); recognising the interests, values and customary rights of Mana Whenua in the sustainable management of natural and physical resources, including integration of mātauranga and tikanga in resource management processes (B6.1(4)); increasing opportunities for Mana Whenua to play a role in environmental decision-making, governance and partnerships (B6.1(5)); and enhancing the relationship between Mana Whenua and Auckland’s natural environment, including customary uses (B6.1(6)).
177. Policies at B6.2.2 look to provide opportunities for active participation of Mana Whenua in a way that (a) recognises the role of Mana Whenua as kaitiaki and provides for the practical expression of kaitiakitanga; (b) builds and maintains partnerships and relationships with iwi authorities; (c) provides for timely, effective and meaningful engagement with Mana Whenua at appropriate stages in the resource management process, including development of resource management policies and plans; (d) recognises the role of kaumātua and pūkenga; (e) recognises Mana Whenua as specialists in the tikanga of their hapū or iwi and as being best placed to convey their relationship with their ancestral lands, water, sites, wāhi tapu and other taonga; (f) acknowledges historical circumstances and impacts on resource needs; (g) recognises and provides for mātauranga and tikanga.
178. The Cultural Values Assessments provided to us by Mana Whenua clearly assess the effects of the application as being adverse or significantly adverse. That evidence was prepared and provided to us, by those with the requisite expertise and knowledge to provide such assessment. The members of Ngāti Manuhiri and Te Rūnanga who spoke to those CVAs when presenting their evidence, including Dame Naida, Mr Hohneck, Mr Ruka, Mr Miru, Mr Nahi, and Mr Bill Kapea are all cultural experts and experts in mātauranga Māori. Dame Naida, in particular, demonstrated and was clearly recognised by the Mana Whenua groups as a *pūkenga* in tikanga Māori.
179. Mana Whenua have assessed the impact of the application on their relationship as being significantly adverse. That is the only reliable and credible evidence before the

Panel as to the impacts of a landfill in this location and at that scale and form, on the relationship of Ngāti Manuhiri and Ngāti Whātua and their culture and traditions, with their ancestral lands, water, sites, waahi tapu and other taonga. That evidence was highly persuasive, a point also recognised by Mr Ross and Ms Brabant. The evidence is that it will cause harm to their cultural values and that harm can not be appropriately mitigated.

180. It is not the role of the Planners or our role as decisionmakers to usurp those legitimate assessments for our own, using our own lenses. It is not for us to 'qualify' those assessments but to understand and consider where those assessments sit, within the framework of the relevant plan, namely the AUP and the RMA.
181. Where a proposal affects land or resources subject to Treaty settlement legislation, the historical association of the claimant group with the area, and any historical, cultural or spiritual values associated with the site or area is to be recognised and provided for (B6.2.2(2)(a)).
182. We received evidence from Ngāti Manuhiri as to the importance of Te Awa Hōteu, their historical association with the taonga and surrounding area and the cultural and spiritual values associated with it. The significance of Te Awa Hōteu and the association of Ngāti Manuhiri is also recognised in their Statutory Acknowledgment.
183. B6.3 sets out objectives and policies recognising Mana Whenua values:
 - (1) Mana Whenua values, mātauranga and tikanga are properly reflected and accorded sufficient weight in resource management decision-making.
 - (2) The mauri of, and the relationship of Mana Whenua with, natural and physical resources including freshwater, geothermal resources, land, air and coastal resources are enhanced overall.
184. The policies at B6.3.2 (1) support enabling Mana Whenua to identify their values associated with matters including: (a) ancestral lands, water, air, sites, wāhi tapu, and other taonga; (b) freshwater, including rivers, streams, aquifers, lakes, wetlands, and associated values; and (c) biodiversity.
185. I consider the significant adverse effects on the cultural values of Mana Whenua, together with the adverse effects on ecology and biodiversity and the values of Mana Whenua associated with freshwater, are of such significance that they do override the general support that the AUP provides to the establishment and operation of infrastructure including the policies at B3. Prioritising these matters of national importance as recognised by the Act is also consistent with the direction of travel indicated by the NPS-FM.
186. The policies (B6.3.2(2)) require Mana Whenua values, mātauranga and tikanga to be integrated:
 - (a) in the management of natural and physical resources within the ancestral rohe of Mana Whenua, including: (i) ancestral lands, water, sites, wāhi tapu and other taonga;
 - (ii) biodiversity; and (iii) historic heritage places and areas.

(b) in the management of freshwater and coastal resources, such as the use of rāhui to enhance ecosystem health;

(c) in the development of innovative solutions to remedy the long-term adverse effects on historical, cultural and spiritual values from discharges to freshwater and coastal water; and

(d) in resource management processes and decisions relating to freshwater, geothermal, land, air and coastal resources.

187. Policy B6.3.2(3) requires any assessment of environmental effects for an activity that may affect Mana Whenua values to include an appropriate assessment of adverse effects on those values. I do not consider the assessments of environmental effects properly satisfied this policy.

188. Under Policy 6.3.2(4) opportunities are to be provided for Mana Whenua to be involved in the integrated management of natural and physical resources in ways that do all of the following:

(a) recognise the holistic nature of the Mana Whenua world view;

...

(c) restore or enhance the mauri of freshwater and coastal ecosystems.

189. Engagement with Mana Whenua occurred post-selection of the site thereby limiting opportunities for Mana Whenua involvement. It does not meet with best practice. As Mr Carlyon pointed out, the mana whenua values, mātauranga and tikanga have not been integrated into the resource management process and the decisions made to date, and the AEE provided does not include an assessment of the effects on the values held by Ngāti Whātua.

190. Policy B6.3.2(6) requires resource management decisions to have particular regard to potential impacts on all of the following:

(a) the holistic nature of the Mana Whenua world view;

(b) the exercise of kaitiakitanga;

(c) mauri, particularly in relation to freshwater and coastal resources;

(d) customary activities, including mahinga kai; and

(e) sites and areas with significant spiritual or cultural heritage value to Mana Whenua;

191. I have had particular regard to the matters set out at Policy B6.3.2(6) and in doing so find this policy (alongside other policies noted above) supports my findings and decision that consent should be refused.

192. B6.5. relates to protection of Mana Whenua cultural heritage. Objective B6.5.1 states that the tangible and intangible values of Mana Whenua cultural heritage are identified, protected and enhanced (1); that the relationship of Mana Whenua with

their cultural heritage is provided for (2); the association of Mana Whenua cultural, spiritual and historical values with local history and whakapapa is recognised, protected and enhanced (3).

193. The proposal does not identify, protect and enhance Ngāti Manuhiri or Ngāti Whātua's cultural heritage values associated with Te Awa Hoteo their rohe, which includes the ARL site, and does not provide for their relationship with their cultural heritage.
194. In his evidence Mr Carlyon stated his opinion that the AUP does not give an unfettered right for the development of infrastructure over and above other provisions, specifically in relation to mana whenua and ecology and freshwater management. The infrastructure provisions must be read alongside the requirements of other relevant provisions. In his view, the provisions in the AUP set out an expectation for iwi regarding Māori participation in resource management decision-making and the integration of mana whenua values, mātauranga and tikanga in the management of natural and physical resources. The provisions seek to ensure that the mauri of, and the relationship of mana whenua with, natural and physical resources including freshwater, geothermal resources, land, air and coastal resources are enhanced overall.³⁰
195. I note that Mr Carlyon considered the proposal to be contrary to several of the objectives and policies in the AUP relating to mana whenua including: Objective B6.2.1(1), Objective B6.2.1(2) and Policy B6.2.2(1), Objective B6.3.1(2), Policies B6.3.2(2) & (3), Objectives B6.5.1(1), (2) & (3), Policy E3.3 (5). I agree.
196. He also considered the proposal to be contrary to several of the objectives and policies in the AUP relating to ecology, including:
- A. Objective B7.3.1(1)-(3) and Policy B7.3.2(4) – These provisions seek to minimise streambed loss and avoid the loss unless specific circumstances exist, including that mitigation measures are implemented and that environmental benefits are provided. As discussed further in my evidence, the proposal will result in significant streambed loss which has not been appropriately mitigated, offset or compensated as required by the AUP.
 - B. Objective E3.2(3) and Policies E3.3(2) and (4) – These provisions require the Applicant to follow the effects hierarchy. The policies require offsetting to (preferably) achieve no net loss or a net gain. I note that these policies must be read in conjunction with Appendix 8 and the Guidance on Good Practice Biodiversity Offsetting in New Zealand. This document specifically defines the goal of biodiversity offsets to be one of “no net less and preferably a net gain, of indigenous biodiversity values”. I discuss offsetting further in my evidence, with the conclusion that the RC application will not achieve a position of no net loss or net gain.
197. On this basis Mr Carlyon did not consider the proposal would meet the second arm of the gateway test.

³⁰ Statement of evidence, Mr Carlyon, para 110.

198. Ms Young held a similar view. It was Ms Young's opinion that the application site has significant ecological values, and that these values include ecologically significant indigenous native forest, habitat for fauna including long-tailed bats, frogs and lizards, birds, as well as moderate value freshwater habitat, the significance of which is recognised in the AUP. In her opinion the Applicant had not provided sufficient evidence to show alternative sites for the landfill were appropriately considered, given the section 6(c) values at issue and the proposal does not pass through either of the gateway tests in section 104D.
199. She noted that the Application will result in residual effects that cannot be avoided, remedied, mitigated that are more than minor as:
- (a) the proposed landfill will have severe ecological effects on the significant ecological values including the permanent loss of streams, significant habitat for threatened species and permanent loss of wetlands;
 - (b) the proposed landfill will create, edge effects, and mortality for fauna during clearance or as a result of habitat loss;
 - (c) the proposed offset/compensation package does not address the full extent of the adverse residual effects of this proposal as is required by the AUP and will not provide a measurable outcome for biodiversity and cannot demonstrate no net loss.
 - (d) the Consent Application is deficient in the pest control measures proposed to mitigate adverse effects of introduced pest species on adjacent land, namely the Sunnybrook Scenic Reserve;
 - (e) the offsetting / compensation package does not adhere to the principle of equivalence, as the losses and gains at the impact and compensation sites have not been quantified, and gains are only likely for a subset of the biodiversity components to be lost at the impact site.
200. I accept the evidence of Mr Carlyon and Ms Young that the proposal is contrary to several of the objectives and policies in the AUP relating to ecology.

NPS-FM 2020

201. In terms of considering the NPS-FM 2020, the requirement to give effect to Te Mana o te Wai does represent a significant change to the way in which water is valued, weighted and assessed. Te Mana o te Wai derives from long established traditional concepts and whakapapa. It's focus is on hauora and is not limited to water quality.
202. While in making our decision we need to ensure consistency with the NPS-FM 2020, for the purposes of our s.104(1)(b) assessment, we are not expected to 'give effect' to it. In relation to the resource consent application, while this Proposal has to be considered with that instrument in mind and to which we must have regard, it does not extend to reading in words and effectively amending existing provisions of the

AUP, such as adding the word “where practicable” to the E3.3.13(c) provision regarding freshwater values. The NPS-FM 2020 should not be used to read down what are clear and directive avoidance policies.

203. The Applicant in this case as contended by Messrs Enright and Pou, is trying to take advantage of the benefits of regionally significant infrastructure and thereby the more enabling provisions of the AUP. While I accept that landfills are identified in the AUP as infrastructure, they are not identified as regionally significant infrastructure.
204. I refer to subpart 3 and the definition of “specified infrastructure” in the NPS-FM 2020 which states:

specified infrastructure means any of the following:

- (a) infrastructure that delivers a service operated by a lifeline utility (as defined in the Civil Defence Emergency Management Act 2002)
- (b) regionally significant infrastructure identified as such in a regional policy statement or regional plan
- (c) any public flood control, flood protection, or drainage works carried out:
 - (i) by or on behalf of a local authority, including works carried out for the purposes set out in section 133 of the Soil Conservation and Rivers Control Act 1941; or
 - (ii) for the purpose of drainage by drainage districts under the Land Drainage Act 1908.

205. The landfill does not meet the definition of specified infrastructure for the purposes of the NPS-FM 2020.
206. As Mr Matheson points out, no infrastructure is identified as regionally significant under the AUP but that does not mean that this applicant can elevate its status to that of regionally significant infrastructure so as to take advantage of the benefits under the NPS-FM 2020 which arguably provides more enabling provisions for regionally significant infrastructure where that infrastructure is identified as such within the Plan.
207. Given my earlier findings regarding the effects on cultural values associated with freshwater resources and the ecological effects which are unable to be avoided, including the absolute loss of values both ecological and cultural where streams are infilled, and the insufficiency and lack of certainty of the effects mitigation package to address the adverse effects of the landfill on rivers, streams (eg, stream loss), wetland, habitat and endangered species, I do not consider the Proposal is consistent with the provisions of the NPS-FM 2020.

OTHER RELEVANT MATTERS (Section 104)(1)(c)

208. I refer to and adopt paragraphs 693-697 of the majority decision.

209. Evidence from Mana Whenua focused on the relevant framework of cultural principles which has already been identified by Council in the Waste Management and Minimisation Plan. They submitted that the Plan sets a course for Council in meeting its obligations under the Waste Minimisation Act 2008 to achieve “effective and efficient” waste management and minimisation. The Plan includes the importance of a closed loop system, control over resources within the rohe of each Iwi (rangatiratanga and kaitiakitanga), management of waste under tikanga and mātauranga Māori; reciprocity (not transfer of the waste of the many rohe of Auckland to a single rohe). It includes guiding principles such as, “Ensuring the teachings of Te Ao Māori underpin and inform waste management decisions.” It embraces another dimension to Zero Waste, by aligning with Te Ao Māori and the tradition of kaitiakitanga – the active obligation to sustain and restore our collective resources to enhance the mauri of taonga tuku iho. It recognises the extrinsic costs of waste on the aquatic and terrestrial environments, and who will inherit these costs and identifies the requirement for long-term behavioural change to protect Papatūānuku, Tāne and Tangaroa. It states that, “Incorporating mātauranga and tikanga Māori into solutions and decision-making by partnering with whānau, hapū, iwi, and communities will create change and facilitate the transfer of knowledge and actions to and for future generations.”³¹
210. In particular, our attention was brought to the aspiration of zero waste by 2040. However, as we have already noted, we received no credible evidence that this aspiration could be achieved before the closure of the Redvale landfill, while we did receive evidence that a landfill will continue to be required in the northern part of the region.

ALTERNATIVES AND NECESSITY (S104(6))

211. Section 104(6) of the RMA allows a consent authority to decline an application for a resource consent on the grounds that it has inadequate information to determine the application.
212. I consider that Waste Management’s approach was not entirely consistent with the requirements of Schedule 4, clause 6(1)(a) of the RMA. That clause states:

“6. “Information required in assessment of environmental effects

(1) An assessment of the activity’s effects on the environment must include the following information:

(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:

(b) an assessment of the actual or potential effect on the environment of the activity:

³¹ See Submissions of Counsel for Ngāti Manuhiri and Te Rūnanga o Ngāti Whātua, p. 8

(c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use:

213. Similar to earlier comments made around the 'necessity' for a landfill, Commissioners did not consider the adequacy of consideration that had been given to alternative sites, routes, or methods in the same way we would have in terms of s.171(1)(b). Nor are we required to.
214. We received extensive submissions from submitters about alternative options for management of waste including Mr Foster as described above, Mr Dudley Ward on behalf of Aotearoa Sustainability Foundation and the Mayor of Kaipara District Council, Dr Jason Smith.
215. As those matters were not matters we were making findings on (like we would have under a s.171 (1)(b)), they were only considered to the extent they were relevant to an assessment of alternatives in a s.104 context.
216. It is in this context also that the submissions and evidence from Mana Whenua around alternatives may be considered. As Counsel for Ngāti Manuhiri and Te Rūnanga submitted, Commissioners are entitled to consider alternative sites and methods, for the Proposal and whether this is discretionary or mandatory depends on a range of factors, but, if this project will be Auckland region's only anticipated landfill from 2028, then it must be given careful consideration.
217. Messrs Pou and Enright contended that the applicant did not appear to dispute our ability to consider and assess the issue of alternatives, and submitted it is actually mandatory because of the assertion made about the landfill being regionally significant infrastructure. They noted that it does have an effect on section 6 matters of national importance and therefore as decisionmakers we should be looking for alternatives and adopting a regional perspective on that topic. To support that submission, Counsel referred us to the *King Salmon*³² case and the second question of law in *King Salmon*. I note that the submission is probably more relevant to our consideration of PPC42 but nevertheless consider the following finding by the Court:

[170] This brings us back to the question when consideration of alternative sites may be necessary. This will be determined by the nature and circumstances of the particular site-specific plan change application. For example, an applicant may claim that that a particular activity needs to occur in part of the coastal environment. If that activity would adversely affect the preservation of natural character in the coastal environment, the decision-maker ought to consider whether the activity does in fact need to occur in the coastal environment. Almost inevitably, this will involve the consideration of alternative localities. Similarly, even where it is clear that an activity must occur in the coastal environment, if the applicant claims that a particular site has features that make it uniquely, or even especially, suitable for the activity, the decision-maker will be obliged to test that claim; that may well involve

³² [Environmental Defence Society Incorporated v The New Zealand King Salmon Company Limited & Ors \(PDF 574 KB\)](#) at [168-172]

consideration of alternative sites, particularly where the decision-maker considers that the activity will have significant adverse effects on the natural attributes of the proposed site. In short, the need to consider alternatives will be determined by the nature and circumstances of the particular application relating to the coastal environment, and the justifications advanced in support of it, as Mr Nolan went some way to accepting in oral argument.”

218. Counsel further submitted that Waste Management wants the benefits but not the burdens of its claimed status as regionally significant infrastructure. I note that iwi have not conceded regionally significant infrastructure. I agree.
219. Counsel contended that if the landfill qualifies as regionally significant infrastructure, then it is not simply a private for profit venture. A higher threshold applies to site selection, particularly as the landfill will have adverse effects on matters of national importance under s.6 RMA. They submitted the subject proposal is not the same as a supermarket proposal on a private site (the facts in *Brown v Dunedin CC*).
220. This was a matter that Counsel for Waste Management refuted, “There is, with great respect, simply no judicial authority for the proposition put forward by Counsel that a privately promoted project that has wider regional benefits (ie as regionally significant infrastructure) should somehow be subject to a higher threshold for site selection than a project without those regional benefits.” I accept Mr Matheson’s submission on this point.
221. Counsel for Ngāti Manuhiri and Te Rūnanga submitted that a key flaw in the applicant’s assessment of alternative sites and methods is that the site was selected without consideration of the values and relationships of Ngāti Manuhiri and Ngāti Whātua with their ancestral lands, waters and taonga. They submitted consultation with Iwi Authorities was “after the fact” – after purchase of the site and OIA approval, meaning that the focus was then on mitigation and offsetting (not avoidance). I accept that point was made out on the evidence considered.
222. Counsel also submitted that absence of assessment of cultural and ecological factors is clear from the criteria identified by Simonne Eldridge in her primary and supplementary evidence and it is reflected in the discussion of site suitability in the s42A report, which reserved the position on cultural effects.
223. Counsel for Waste Management responded in closing, that Waste Management acknowledges that it did not directly engage any specialist cultural advice in terms of its site selection process but that this does not mean that Waste Management was not aware of, or did not consider mana whenua values during site selection. Counsel submitted that Waste Management was particularly conscious of those areas that had been highlighted as being of value to mana whenua through the AUP and Proposed AUP (PAUP) maps. He further submitted, given the purpose and expectation of RMA planning maps and associated plan provisions, users are entitled to organise their activities around these public documents.
224. The evidence for the applicant was that they had been through an extensive site selection process that was undertaken over a 13 year period for purchase of this site. In her evidence (EiC) Ms Eldridge identified the factors considered by Waste

Management in their site selection process (para 3.5) based on the Technical Guidelines for Disposal to Land, (August 2018) WasteMINZ, at section 4.3. Neither cultural nor ecological considerations were identified in that list.

225. Ms Eldridge noted³³ that the information they considered was from a number of sources and set out in her evidence the key drivers for a site to be selected as suitable for a regional landfill based on her experience, and consistent with the WasteMINZ Technical Guidelines. It was clear on the evidence that the only matter that had been considered by the applicant in terms of sites where cultural values might be of concern were sites which avoided known sites of significance to iwi, as identified through planning documents.
226. In her Second Supplementary Rebuttal Evidence Ms Eldridge identified landfill siting criteria which included social and cultural issues associated with the site. A perusal of that criteria refers to cultural issues and states:

“Areas of cultural significance should be avoided. While local authorities may have records of identified areas, engagement with local iwi is the best way to ensure that all known sites of cultural significance are identified early and negative cultural impacts avoided or resolved....”

227. While we accept the submissions of Counsel, that users are entitled to organise their activities around public documents including RMA planning maps and associated plan provisions, that is not best practice and inconsistent with Waste Management's own landfill siting criteria. The limitations of those planning maps must also be considered and sites of value important to mana whenua are not reflected in the D21 Sites and Places of Significance to Mana Whenua Overlay. That schedule is not exhaustive and consideration should not be limited to that. The AUP (B6.6) also expresses some caution as to reliance on that Overlay. It states that,

“Assessments of effects on the environment which pay particular attention to potential cultural effects based on history and tikanga are expected for areas subject to structure planning to identify additional sites that warrant protection. Similar assessments are required for resource consent applications where Mana Whenua values are affected.

For reasons such as limited investment, cultural sensitivities and mismanagement of information in the past, very little Mana Whenua cultural heritage has been scheduled despite the large number of Mana Whenua groups with strong associations to Auckland.

The Council has a statutory responsibility to protect Mana Whenua cultural heritage from inappropriate subdivision, use and development. This will involve a collaborative approach with Mana Whenua, working in accordance with tikanga to identify, assess, protect and manage Mana Whenua cultural heritage, including the context for individual sites and places which are the footprint/tapu wae of Mana Whenua.”

³³ Evidence of S. Edridge, paras 3.7 & 4.7

228. Clearly early engagement with Mana Whenua may have assisted a more accurate assessment of effects on the environment which paid particular attention to potential cultural effects based on history and tikanga. While the applicant may have had good commercial reasons not to engage with Mana Whenua earlier in the process, such engagement may have assisted in avoiding the sorts of issues with which Waste Management is now faced.
229. It is accepted, as Counsel for Ngāti Manuhiri and Te Rūnanga submit, that there is no technical duty to consult before acquisition of a site by a private venture that is not a requiring authority; moreover as Counsel for Waste Management noted in closings, there is *no legal requirement* for a consent applicant to consult with *anyone* prior to or following lodgement, and there is certainly no legal requirement for a consent applicant to engage in broad community engagement and consultation amongst all affected mana whenua and communities in the North Auckland area in an effort to identify an appropriate location for a project.
230. However, as Counsel for Ngāti Manuhiri and Te Rūnanga point out, the applicant has taken the risk that cultural effects can be addressed or mitigated. This can be contrasted with the designation process, where site selection often involves multi-criteria analysis including cultural values and effects. I note that the landfill siting criteria states in relation to Community Issues, that “Consultation with the community is an important step and may be required to identify issues of importance, related to actual (or perceived) risks and appropriate measures to avoid, remedy or mitigate adverse effects on the environment.” Cultural issues are identified as a typical Community issue.
231. I note the submission of Counsel for Waste Management that “whichever site was selected and whichever harbour was considered to be the receiving environment, it is inevitable that the same issues would arise in terms of the importance of that moana or that awa, to one or more of the mana whenua iwi or hapū.” With respect, I consider that submission misses the point of some of the B6.2 provisions relating to partnerships, participation and the role and expression of Mana Whenua as kaitiaki. It certainly shows a misunderstanding of the mana whakahaere roles that Mana Whenua have and a disrespect for their mana motuhake.
232. I acknowledge Counsel for Waste Management’s submission that it is not the best site in each and every relevant respect, but that based on their assessment, it is the best available site, having regard to the full gamut of site selection criteria. I express some reservation about that criteria and its application.
233. I note Mr Matheson’s submission that Waste Management has explained its concerns about confidentiality of the site selection process, given the very competitive nature of the waste industry and that it was simply not appropriate to have engaged more fully or more broadly with mana whenua, the Council or other community groups during the initial stage of the site selection process. He added that Waste Management did not consider it to be fair on landowners to disclose to others in the community that their site (or an adjacent site) was being considered for a landfill use, prior to any conclusion being reached that the land was potentially suitable for more detailed investigation, or prior to having any discussions with the landowners themselves.

234. While I acknowledge those difficulties that does not alter the requirements under clause 6(1)(a) of the RMA. Non-engagement with the key Iwi Authorities prior to site selection and process has resulted in a site that does not avoid an area of significance to Mana Whenua, made out by them on the evidence.
235. The s.42A report accepted the location was well suited for development of a landfill, save for the potential effects on freshwater and terrestrial ecology values, and (potential) cultural effects. The report did refer to Mr Lowe's technical review which raised an issue with respect to the suitability of the site for the proposed landfill from a freshwater ecology perspective, commenting that the site selection process appears to have been limited to consideration of the AUP overlays, including significant ecological areas (SEAs), natural stream management areas (NSMAs) and wetland management areas. It further notes that, ecological surveys were only undertaken once the site was selected, at which time several 'at risk' freshwater species were identified including longfin eel, kākahi and īnanga.³⁴
236. As Mr Matheson submitted, Waste Management are not required to demonstrate to us that it has considered all possible alternatives, or that it has selected the best of all of the available alternatives. It is well-settled law that such considerations would be straying into matters of policy which fall outside our jurisdiction in considering this application.
237. Accordingly, it is not for us to substitute our own choice for that of Waste Management in this case. It is also not our function to force upon Waste Management a disposal method that is not the subject of this application.
238. I do not consider it appropriate to decline the Proposal on grounds that there is inadequate information to determine the application but provide some commentary and consideration of the evidence as to the assessment of alternatives and best practicable option, which were key issues raised by Mana Whenua submitters and the community at large.
239. I consider the matter of site selection is more relevant to evidential findings regarding the extent to which Waste Management through it's site selection process sought to "avoid" particular adverse effects and whether having made a decision based on their internal process that this was the most appropriate location for a landfill, the extent to which they considered they would then be able to avoid, remedy or mitigate particular adverse effects.
240. Perhaps my response to these matters as raised by the parties is best summarised by the submission of Mr Matheson as follows, "As a general observation, when considering the criticisms of the site selection process, care should be taken not to apply the standards of today to processes that have occurred over the past 10 years. We are sure that, were a site selection process to commence today, some areas would receive much greater emphasis reflecting the legal and social, factual, regulatory and planning matrix of 2021."³⁵

³⁴ S42A, p.37

³⁵ Waste Management, Reply submissions, para 3.10

PART 2 ASSESSMENT

241. I refer to and adopt paragraphs 114-118 of the majority decision.
242. I acknowledge that the Part 2 provisions are strong directions, to be borne in mind at every stage of the process and include both substantive and procedural requirements. I note the submission of Counsel for Waste Management that the application of Part 2 must be done in an holistic manner.³⁶
243. Given the direction provided by Cooper J., I have had recourse to Part 2 and I consider a determinative judgment can be made under Part 2 given the Proposal does not reflect the outcomes envisaged by Part 2; given the incomplete coverage of the AUP in terms of freshwater; and particularly given the significance of these matters of national importance which are pivotal and were focal points in the hearing of this application.
244. I find that this Proposal will not achieve the purpose of the Act as set out in section 5. In achieving the purpose of the Act a particular sensitivity is required to Māori issues³⁷. The establishment of a landfill in this location will not promote the sustainable management of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their cultural well-being in particular. While I do accept that waste needs to be properly managed for the health and safety of people and communities and for their social wellbeing, I consider this is outweighed by the strong directions in sections 6, 7 and 8 of the Act.
245. There was a clear and consistent view from Mana Whenua that a landfill has a direct and significant adverse effect on Papatūānuku and in this location would also adversely affect those other aspects of the natural environment that come from Papatūānuku and Ranginui. A landfill in this location would challenge the relationship that Mana Whenua have with their lands, water, sites, waahi tapu, and other taonga, and their kaitiakitanga role in respect of protecting the awa and whenua. The landfill's presence will clearly and irrevocably diminish that relationship, one based on whakapapa and connection to both physical and spiritual worlds, and will seriously limit the ability to exercise kaitiakitanga and manaakitanga consistent with their tikanga, culture and traditions. On this basis the Part 2 requirement to recognise and provide for this matter of national importance and to have particular regard to kaitiakitanga (sections 6(e) and 7(a)) cannot be met by this application.
246. One of the reasons given for us to have recourse to Part 2 is on the basis that the NPS-FM 2020 has now been promulgated and therefore the AUP is not complete in relation to freshwater policy. That being said we should still put a lot of weight on the policy direction identified by the AUP itself and its approach to various values, particularly where they align with those of the NPS-FM which indicates a new and far more stringent policy direction. Nevertheless, given earlier findings that the Proposal will likely result in adverse effects on the natural character of waterbodies, significant indigenous vegetation, significant habitats of indigenous fauna and the relevant cultural associations, the Proposal also offends matters of national importance

³⁶ Ibid, para 5.117

³⁷ *McGuire v Hastings District Council* [2002] 2 NZLR 577 (PC) at [21]

identified in sections 6(a), 6(c) and 6(e) RMA and matters to which particular regard must be had identified in sections 7(a), (aa), (d), (f) and (g) RMA.

247. Section 8 provides a clear directive that the principles of the Treaty, te Tiriti, must be taken into account in resource consent decision making. The principles most often cited are: partnership, participation (engagement and consultation) and protection. While the applicant has clearly attempted to address those treaty principles; seeking to engage and consult and participate with Mana Whenua directly responding to the matters raised in the CVAs, submissions and evidence³⁸, the evidence of Mana Whenua is that that is insufficient and comes at significant cost and risk to their relationship, culture and traditions which is unable to be avoided.
248. Both Ngāti Manuhiri and Ngāti Whātua o Kaipara [as represented here by Ngā Maunga Whakahii (the PSGE) and also Te Rūnanga o Ngāti Whātua] have settled their historical claims against the Crown. Both settlements emphasise the importance of the role those iwi continue to play as kaitiaki in their respective rohe. In exercising their obligations as kaitiaki they have provided assessments, evidence and submissions regarding how this application affects their relationship. To the extent that this application limits their ability to exercise kaitiakitanga within their respective rohe, consistent with tikanga and in a way that is incongruous to the intentions of those settlements must also be a matter we need to take into account in terms of s.8 and the principles of Te Tiriti o Waitangi.
249. I am satisfied that had I not had recourse to Part 2 to determine this application, having regard to Part 2 would still lead me to the same conclusion reached following my assessment of the application under s.104, and in fact would further support my finding, which is that consent should be refused.

CONCLUSION

Section 104D, Section 104(1)

250. In summary and as described above, the reasons for my findings that the application should be refused are:
- a. In accordance with s.104D(1)(a) of the RMA, the adverse effects of the activity in terms of ecology and cultural values will be more than minor (significantly adverse).
 - b. In accordance with s.104D(1)(b) of the RMA, the application is for an activity that will be contrary to a number of specific objectives and policies of the AUP that on the basis of the unified submissions of Iwi and hapū, hold determinative weight.
251. On this basis it is my finding that the applications fail both limbs of s.104D, and therefore must be refused consent.

³⁸ Counsel sets out a non-exhaustive list of ways in which Waste Management has tried to respond to matters raised by Mana Whenua, Supplementary Reply Submissions, 31 January 2021, pp. 12-17.

252. Notwithstanding the above paragraph, if the proposal could have met one or both of the limbs of 104D, I find that:
- a. In accordance with s.104(1)(a) of the RMA, the actual and potential adverse effects of the proposal in terms of ecology and cultural values are significant, and have not been avoided or mitigated so as to meet the purpose of the RMA; and
 - b. In accordance with s.104(1)(b) of the RMA, the proposal is, at least, inconsistent with relevant provisions of the statutory documents, including the AUP (RPS and Plan) and the NPS-FM.
253. Furthermore, I find that the proposal:
- a. Does not adequately provide for s.6(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga;
 - b. Does not adequately provide for s.6(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;
 - c. Does not appropriately address the relevant s.7 matters being (a) kaitiakitanga, (aa) the ethic of stewardship, (d) intrinsic values of ecosystems, (f) maintenance and enhancement of the quality of the environment and (g) any finite characteristics of natural and physical resources; and
 - d. Does not sufficiently take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) (s. 8) with respect to the matters listed above.
254. I am also of the view that the applicant has not provided satisfactory evidence that the proposal has a functional need to locate or operate on this particular site or that the landfill activity can only occur in this site.
255. Overall, I find that the proposal does not satisfy Part 2 of the RMA, in particular its purpose of sustainable management and avoiding or mitigating adverse effects of the proposed activity on the environment. It also does not adequately provide for cultural wellbeing; sufficiently safeguard the life-supporting capacity of water, soil, and ecosystems; and does not sufficiently avoid or mitigate adverse effects on the environment.
256. Based on my findings above, it is my view that having regard to the foregoing reasons, the application should have been refused consent.



S M Teponia
(Chairperson)
11 June 2021

Appendix 1 – Resource Consents and Conditions

Conditions of Consent

These conditions are structured as follows:

PART A – DEFINITIONS

PART B – GENERAL CONDITIONS

PART C – OTHER MANAGEMENT PLANS

PART D – INITIAL SITE CONSTRUCTION WORKS

PART E – LANDFILL OPERATIONS

PART F – LANDFILL MANAGEMENT PLAN

PART G – AFTERCARE

PART H – GENERAL ADVICE NOTES

PART I – RESOURCE CONSENT NUMBERS AND ASSOCIATED ACTIVITIES

PART A - DEFINITIONS

Initial Construction Commencement Date – is the date that initial site construction works will commence, such date to be notified 30 working days in advance by the consent holder to Council.

Initial Construction Completion Date – is the date that the consent holder notifies the Council that the Initial Site Construction Works are complete.

Council – means, unless otherwise stated, Auckland Council, Council Monitoring Inspector.

Initial Site Construction Works – those works required on site prior to the receipt of waste, including, but not limited to construction of the sediment retention/stormwater ponds, the State Highway 1 roundabout, access road and bridge from State Highway 1 to the bin exchange area, the bin exchange area, the access road from the bin exchange area to the landfill area, the workshop and site facilities, the initial earthworks to prepare the first part of the landfill to receive waste, and associated removal of vegetation and material to stockpiles and removal of clay material to the clay borrow area.

Landfill Capping Completion Date – is the date on which the consent holder gives notice to Council that the final capping of the landfill is complete and that post-closure aftercare will commence.

Landfill Commencement Date – is the date that waste acceptance commences at the landfill, such date to be notified to Council in writing.

Seasonal Construction Works – those earthworks after the Landfill Commencement Date relating to the preparation of a landfill cell within Valley 1, including any earthworks relating to the construction of any associated access roads or extensions to existing roads to access that new landfill cell.

PART B - GENERAL CONDITIONS

1. The activity shall be carried out in general accordance with the application comprising the following plans and reports:
 - 'Auckland Regional Landfill Assessment of Environmental Effects' prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Auckland Regional Landfill Geotechnical Factual Report' prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Auckland Regional Landfill Geotechnical Interpretative Report' prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Auckland Regional Landfill Probabilistic Seismic Hazard Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Auckland Regional Landfill Air Quality Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Auckland Regional Landfill Hydrogeology Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Auckland Regional Landfill Baseline Monitoring Report', prepared by Tonkin & Taylor Ltd, dated October 2020;
 - 'Auckland Regional Landfill Assessment of Aquatic and Terrestrial Ecological Values and Effects', prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Landscape and Visual Assessment', prepared by Boffa Miskell Ltd, dated May 2019;
 - 'Assessment of Economic Effects of the Proposed Auckland Regional Landfill', prepared by Brown Copelands & Co Ltd, dated May 2019;
 - 'Archaeological Assessment: Proposed Works', prepared by Matthew Felgate, dated September 2018;
 - 'Auckland Regional Landfill Assessment of Environmental Noise Effects', prepared by Marshall Day, dated May 2019;
 - 'Auckland Regional Landfill – Integrated Transport Assessment', prepared by Stantec, dated May 2019;
 - 'Auckland Regional Landfill Engineering Report', prepared by Tonkin & Taylor Ltd, dated May 2019;
 - 'Auckland Regional Landfill Waste Acceptance Criteria', prepared by Tonkin & Taylor Ltd, dated May 2019;

- 'Auckland Regional Landfill Stormwater and Industrial Trade Activity Report', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Sediment and Erosion Control Assessment', prepared by Tonkin & Taylor Ltd, dated May 2019;
- 'Auckland Regional Landfill Risk Management Assessment', prepared by AECOM, dated May 2019;
- 'Auckland Regional Landfill Complied Further Information Responses', prepared by Tonkin & Taylor Ltd, dated March 2020;
- 'Auckland Regional Landfill Stormwater pond dams: s92 response addendum report', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Response to outstanding Freshwater Ecology section 92 questions', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Response to outstanding Terrestrial Ecology Section 92 questions', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill – Supplementary 2020 Frog Survey Report', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill Supplementary long-tailed bat report', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill Hydrogeological Assessment – Addendum Report (Volume 1)', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill – Hydrogeological Assessment Addendum Report (Volume 2)', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill Geotechnical Addendum Report', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Sediment, Stormwater, and Waste Acceptance Criteria Additional s92 Responses', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Further Stormwater and Health Risk Assessment s92 Responses', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Removal of Stockpile 2 from the Auckland Regional Landfill resource consent application BUN60339589', prepared by Tonkin & Taylor Ltd, dated August 2020;
- Tech Memo from Chris Bailey to Aslan Perwick, 28 August 2020, titled "Follow up to Hydrogeology Addendum Report V3, Fate & Transport Modelling" Ref 1005069.013;

- 'Flooding Assessment Report', prepared by Tonkin & Taylor Ltd, dated September 2020 Rev v2;
- 'Auckland Regional Landfill – Human Health Risk Assessment', prepared by Tonkin & Taylor Ltd, dated November 2020, Rev v2;
- 'Auckland Regional Landfill – Terrestrial and Wetland Biodiversity Offsets and Compensation Framework', prepared by Tonkin & Taylor Ltd, dated August 2020;
- 'Auckland Regional Landfill – Draft Landfill Management Plan', prepared by Waste Management New Zealand Ltd, dated November 2020;
- 'Auckland Regional Landfill – Draft Ecological, Landscape and Visual Effects Management Plan', prepared by Tonkin & Taylor Ltd and Boffa Miskell Ltd, dated November 2020;
- 'Auckland Regional Landfill – Draft Construction Surface Water Ecological Monitoring, Management and Response Framework;
- Draft Hochstetter's Frog Management Plan V1-Tonkin&Taylor-14 Aug 20
- Ecological Pest Animal Management Plan-Tonkin & Taylor, Nov 2020, V1
- Sheet ENG-01 Site: Site Plan, Rev 2;
- Sheet ENG-02 Site: Landfill Layout Plan – West, Rev 1;
- Sheet ENG-03 Site: Landfill Layout Plan – East, Rev 1;
- Sheet ENG-04 Site: Landfill Layout Plan - phases 1-6, Rev 1;
- Sheet ENG-05 Landfill: Office & Workshop Layout, Rev 1;
- Sheet ENG-06 Landfill: Renewable Energy Centre Layout, Rev 1;
- Sheet ENG-10 Landfill: Top of Liner Plan – Phase 1-7, Rev 2;
- Sheet ENG-11 Landfill: Cut/Fill Plan, Rev 2;
- Sheet ENG-12 Landfill: Final Cap Contours (Post Settlement), Rev 2;
- Sheet ENG-13 Landfill: Waste Fill Contours After Phase 6, Rev 2;
- Sheet ENG-14 Landfill: Leachate Collection System, Rev 2;
- Sheet ENG-16 Landfill: Landfill Sections (Sheet 1 of 3), Rev 2;
- Sheet ENG-17 Landfill: Landfill Sections (Sheet 2 of 3), Rev 2;
- Sheet ENG-18 Landfill: Landfill Sections (Sheet 3 of 3), Rev 2;

- Sheet ENG-20 Landfill: Typical Lining & Cap Details, Rev 2;
- Sheet ENG-21 Landfill: Typical Bench Detail, Rev 2;
- Sheet ENG-25 Landfill: Phase Plan, Rev 2;
- Sheet ENG-26 Landfill: Landfill Staging Sections (Sheet 1 of 3), Rev 2;
- Sheet ENG-27 Landfill: Landfill Staging Sections (Sheet 2 of 3), Rev 2;
- Sheet ENG-28 Landfill: Landfill Staging Sections (Sheet 3 of 3), Rev 2;
- Sheet ENG-30 Bin Exchange Area and Landfill Access Road: Overall Plan, Rev 2;
- Sheet ENG-31 Bin Exchange Area and Landfill Access Road: Bin Exchange Area, Rev 2;
- Sheet ENG-32 Bin Exchange Area and Landfill Access Road: Waiteraire Stream Bridge, Rev 2;
- Sheet ENG-33 Bin Exchange Area and Landfill Access Road: Road Long Section, Rev 2;
- Sheet ENG-34 Bin Exchange Area and Landfill Access Road: Road Cross Section (Sheet 1 of 2), Rev 1;
- Sheet ENG-35 Bin Exchange Area and Landfill Access Road: Road Cross Section (Sheet 2 of 2), Rev 1;
- Sheet ENG-36 Bin Exchange Area and Landfill Access Road: Access Road Bridge, Rev 2
- Sheet ENG-40 Stormwater Drainage: Early Stage Stormwater Management, Rev 2;
- Sheet ENG-41 Stormwater Drainage: Stage 2 Drainage Plan, Rev 1;
- Sheet ENG-42 Stormwater Drainage: Full Development, Rev 1;
- Sheet ENG-43 Stormwater: Proposed Wetland Schematic, Rev 1;
- Sheet ENG-44 Stormwater: Typical Filter Strip Design, Rev 2;
- Sheet ENG-45 Landfill Access Road: Typical Access Road Cross Section, Rev 2;
- Sheet ENG-48 Landfill – Existing Ground Contours: Stormwater Pipe Location, Rev 2;
- Sheet ENG-49 Stormwater: Longitudinal Section, Rev 1;

- Sheet ENG-60 Landfill: Indicative LFG Well Layout Plan, Rev 2;
 - Ecology Figure 1: Proposed Revegetation Plan, Rev 1;
 - Figure – SW1 Landfill: Schematic of Stormwater Control at Landfill, Rev 2;
 - Figure 8: Site Wide Ecological and Landscape Plan, Revision: C – Drawing No.A18038B_15 dated 15 December 2020; and
 - Figure 9: Landfill Area Ecological and Landscape Plan, Revision: C – Drawing No.A18038B_12 dated 15 December 2020.
2. In the event of any conflict between those plans and reports and these conditions, these conditions will take precedence.

Duration

3. All consents shall commence upon the date that the Consent Holder notifies Council in writing that it wishes to implement these consents. Consents that solely authorise elements of the Initial Site Construction Works shall expire 15 years after the Initial Construction Commencement Date. The regional consents for landfill operations and discharges shall expire 35 years after the Landfill Commencement Date, unless it has lapsed, been surrendered or been cancelled at an earlier date pursuant to the RMA. This expiry does not apply to the land-use consents for landfill operations, which shall continue until it is surrendered.

Lapse

- 3A. Under section 125 of the RMA, this consent lapses five years after the date it is granted unless:
- (a) The consent is given effect to; or
 - (b) The Council extends the period after which the consent lapses.

Bond

4. Prior to the placement of refuse the Consent Holder shall provide and maintain in favour of Council, a financial assurance (bond) which, in the event of default by the Consent Holder, would:
- (a) Secure compliance with all the conditions of these consents and enable any adverse effects on the environment resulting from the Consent Holder's activities, and not authorised by a resource consent or rule in the Auckland Unitary Plan to be avoided, remedied or mitigated. This will include a provision for plausible risks or events that could potentially arise and require remedial works to prevent adverse environmental effects (Compliance) including a provision for any on-site and off-site ecological enhancement or restoration to the extent that it is required in the response to the works that have occurred as part of giving effect to the consent;

- (b) Secure the completion of closure and rehabilitation in accordance with the approved Aftercare section of the Landfill Management Plan, including reasonable provision for early closure events and associated costs in the event of abandonment of the site (Closure); and
 - (c) Ensure the performance of any monitoring obligations of the Consent Holder under this consent post closure, as well as any site aftercare obligations such as care of the landfill cap and pollution prevention infrastructure (Aftercare).
5. The amount (quantum) of the bond shall be adjusted over time as determined by any review conducted in accordance with Condition 14, provided that at any given time the amount shall be sufficient to cover the estimated cost at that time (including any contingency) of the bond components outlined in Condition 6.
6. The quantum for the components in Condition 4 shall be determined as follows:
- (a) Part 1 – Compliance

The Part 1 component of the bond shall be derived based on reasonably foreseeable contingency scenarios defined in the Risk Management Assessment Report (Technical Report S of the application). This component of the bond shall be required for as long as a discharge consent is required for the landfill activity.

The amount shall include provision for the cost of short-term monitoring, site management and regulator inputs required by the resource consents.

Advice Note: The scope and quantum of the Part 1 – Compliance component is expected to reduce during the aftercare period given the greatly reduced scope of activities occurring on site that would need to be monitored, and the resulting reduced risk.

- (b) Part 2 – Closure

The Part 2 component of the bond shall be calculated by determining the likely maximum cost (including a 10% contingency) to close and secure the site at any point within a 5 year period following the review date. The Part 2 bond quantum will be derived in current day dollars.

The amount shall include reasonable provision for all works necessary to close the site, including but not limited to the following:

- (i) Allowance for repair of damage associated with plausible early closure scenarios including, if applicable, repair of damage due to earthquake or extreme weather events;
- (ii) Allowance for remediation of any adverse effect on the environment that may arise from the site relating to plausible early closure scenarios;

- (iii) Allowance for the full extent of the works needed to complete final capping, revegetation, leachate and gas collection infrastructure and removal of any redundant site infrastructure;
- (iv) Allowance for any other rehabilitation work required by the sections on closure and aftercare in the Landfill Management Plan; and
- (v) Allowance for the cost of short-term monitoring, site management and regulator inputs required by the resource consents during closure works.

Advice Note: Where a risk based approach is adopted to assess potential remedial or other costs associated with the bond quantum, then costs shall be assessed to the 90% confidence limit using appropriate engineering methodology.

(c) Part 3 – Aftercare

The Part 3 component of the bond shall be calculated as the Net Present Value of all aftercare costs and shall be based on the cost elements as set out in the Ministry for the Environment Landfill Full Cost Accounting Guide March 2004. Aftercare costs shall be assessed as series of individual cost items, appropriately assessed over the duration of the aftercare period, with the amounts to be inclusive of contingency and a reasonable allowance for capital works or capital equipment replacement. This component will be developed using commercial financial parameters appropriate at the time of the initial assessment subject to amendment by scheduled review.

7. The amount of the bond required by Condition 4 shall be initially set on the basis of cost estimates, using the methodology in Condition 6, prepared by the Consent Holder and detailed in a bond report. The bond report shall be submitted to Council for review and approval prior to the commencement of placement of refuse at the site. The amount of the bond shall cover costs associated with the three components defined in Condition 4.
8. An experienced practitioner shall conduct the assessment required by Condition 6 to prepare the bond report required by Condition 7. The method of conducting the bond assessment shall be documented in the bond report. The bond report shall include all assumptions made in completing the quantitative risk assessment.
9. The Consent Holder's bond shall be in a form agreed between the Consent Holder and Council and shall, subject to these conditions, otherwise be on terms and conditions agreed between them.
10. The Consent Holder's bond shall name the Council as the party able to draw on the bond. The bond shall be available to the Council regardless of whether the qualifying event for payment of the bond is the result of any deliberate or inadvertent act of the Consent Holder or its agents.

11. Should the Consent Holder and the Council be unable to reach mutual agreement on the form, terms and conditions, or amount of the bond, in either the establishment of the bond in accordance with Condition 4 or in subsequent review of the bond in accordance with Conditions 13 or 14 or in terminating the bond in accordance with Conditions 14 or 15, then the matter shall be referred to arbitration in accordance with the provisions of the Arbitration Act 1996. Arbitration shall be commenced on advice by either party that the amount of the bond is disputed, such notice to be given within 14 days of receipt by the Council of the amount of the bond established or proposed to be established by the Consent Holder. If the parties cannot agree upon an arbitrator within 7 days of receiving advice that the amount of the bond is in dispute, then an arbitrator shall be appointed by the President of Engineering New Zealand. Such arbitrator shall give an award in writing within 30 days after his/her appointment, unless both parties mutually agree that time shall be extended. The parties shall bear their own costs in connection with arbitration. In all other respects, the provisions of the Arbitration Act 1996 shall apply.
12. If the decision of the arbitrator is not made available by the 30th day after appointment of the arbitrator, then the amount of the bond shall be fixed by the Council, until such time as the arbitrator does make his/her decision. The Consent Holder shall establish or re-establish the bond in accordance with the arbitrator's decision within 60 days after the decision.
13. The quantum of all components of the Consent Holder's bond defined in Condition 4 shall be reviewed every five years from the first placement of refuse at the landfill, by means of review of the bond report required by Condition 7. If, on review, the quantum of the bond to be provided by the Consent Holder varies by more than 10% of the sum secured by the current bond, then within 60 days of the Consent Holder being given written notice by Council of the new amount to be secured by the bond, the Consent Holder shall execute and lodge with the Council a variation of the existing bond or a new bond for the amount fixed on review by the Council.
14. The Consent Holder may apply to have the bond amended, discharged or reviewed at any time, in which case the Council shall advise the Consent Holder of its decision on the application within 60 days of it receiving the application. An application by the Consent Holder to amend the amount of the bond shall be supported by a bond report carried out in accordance with conditions 4, 5, 6 and 7, giving consideration to the following:
 - (a) Environmental performance, including verification that groundwater and surface water are not polluted as a result of the landfill activities;
 - (b) Extent to which the offsite planting programme has been completed;
 - (c) Degree of waste stabilisation, as reflected in the results of monitoring of settlement, landfill gas and leachate; and,
 - (d) Integrity of closure works, including the landfill cap and surface water controls.

15. The bond shall continue to be maintained in favour of the Council throughout the aftercare period specified in this consent and shall be adjusted at the periodic reviews required by Condition 13 to align with future conditions at the site following closure. Unless otherwise defined in these conditions, the aftercare period commencement date shall be no earlier than the date of completion of capping of the final landfill cell, or the date of closure following abandonment prior to the final landfill cell being completed. If the landfill has been monitored and a bond report approved by the Council affirms that there are no existing or predicted adverse environmental effects from the landfill operation, then the Council may at its discretion discharge any remaining component(s) of the bond. The bond period may at Council's discretion be extended beyond 30 years following site closure, if the bond report at that time indicates that the landfill continues to pose an ongoing unacceptable risk to the environment such that there is an ongoing requirement for aftercare.
16. All costs relating to the bond shall be paid by the Consent Holder, other than in relation to arbitration (see above) in respect of which both parties shall bear their own costs.

Mana Whenua Rōpū

17. At least 12 months prior to the Initial Construction Commencement Date, the consent holder shall invite mana whenua to form and participate in a Mana Whenua Rōpū (MWR). The MWR shall operate for the life of the landfill's construction and operation. The MWR will include representatives from the consent holder and the Consent Holder shall consult with mana whenua and invite representatives from those groups that express interest to participate in the MWR.
18. The Consent Holder shall invite the mana whenua members of the MWR to prepare terms of reference for the conduct of the MWR.
19. The purpose of the MWR is to facilitate engagement between the Consent Holder and mana whenua in respect of the activities authorised by the consent, including (but not limited to) enabling mana whenua to:
 - (a) maintain and enhance their relationship with the land (whenua) and waterways (awa) within and adjacent to the site;
 - (b) provide recommendations as to how, through the implementation of the obligations in the consent conditions, mana whenua can exercise kaitiakitanga of affected whenua and awa;
 - (c) have involvement in the development, implementation and monitoring of cultural indicators;
 - (d) review and comment on the development of specified management plans and results of environmental monitoring as set out in condition 23; and

- (e) provide recommendations to, and request responses from, the consent holder in respect of the matters listed above or other matters that the MWR may raise from time-to-time.
20. The Consent Holder shall invite the MWR to hold regular meetings at the frequency specified below, provided that the frequency and duration meetings may be reduced or increased where the majority of mana whenua members of the MWR agree:
- (a) 5 years from the date of the invitation referred to in condition 17 above: monthly.
 - (b) Between 5 years and 8 years from the date of the invitation referred to in condition 17: quarterly.
 - (c) After 8 years from the date of the invitation referred to in condition 17: annually.
21. The Consent Holder shall be responsible for all reasonable costs associated with the MWR as described in condition 22.
22. The Consent Holder's obligations in respect of the MWR shall be to:
- (a) Provide a venue for the MWR's meetings at the consent holder's cost;
 - (b) Provide remuneration for any Independent Chair, if the MWR wish to appoint an Independent Chair (such remuneration to be agreed to between the Consent Holder and the Independent Chair);
 - (c) Consider and, if requested by mana whenua members of the MWR, provide a written or other agreed appropriate response to all recommendations made by the MWR, to the extent detailed in these conditions or otherwise agreed by the MWR;
 - (d) Attend all MWR meetings, unless a majority of mana whenua members of the MWR agree the consent holder's attendance at a meeting or meetings is not required or appropriate;
 - (e) To make available any independent experts engaged by the consent holder to appear before the MWR, with the costs of the experts' attendances and any necessary preparation to be met by the consent holder;
 - (f) Subject to any operational or health and safety constraints, provide ongoing opportunities for mana whenua to walk the site before works commence to identify, acknowledge and take care of tupuna, and for visits to the site over the life of the operations;
 - (g) Offer mana whenua the opportunity to be involved in providing a karakia on site prior to the Initial Site Construction Works, and prior to the formal opening of the Landfill;

- (h) Provide copies of all environmental monitoring reports to the MWR at the same time as they are provided to Council;
 - (i) Consider and, if requested, respond to the outcomes of any cultural monitoring undertaken by mana whenua, referred to in conditions 25 - 30 of the consent; and
 - (j) Record the main points arising from each meeting of the MWR and provide a copy of that record to all mana whenua members of the MWR within 5 working days following each meeting, unless the Consent Holder was requested not to attend the relevant meeting by the mana whenua members of the MWR.
23. The consent holder shall provide opportunities to the MWR to review, comment and request responses from the consent holder on the following draft management plans:
- (a) Streamworks Methodology Management Plan;
 - (b) Construction Erosion and Sediment Control Plan;
 - (c) Site Specific Erosion and Sediment Control Plan;
 - (d) Erosion and Sediment Control Adaptive Management Plan;
 - (e) Ecological, Landscape and Visual Effects Management Plan (including all sub plans);
 - (f) Stream Offset Works Plan;
 - (g) Streamworks Methodology Management Plan – Seasonal Construction;
 - (h) Erosion and Sediment Control Plan (Operational and Seasonal);
 - (i) Stormwater and Industrial and Trade Activities Management Plan
 - (j) Stormwater System Operation and Maintenance Plan;
 - (k) Stormwater Monitoring and Contingency Plan;
 - (l) Groundwater Monitoring and Contingency Plan;
 - (m) Pest Control Plan – Landfill Operations;
 - (n) Leachate Monitoring and Contingency Plan; and
 - (o) Post Closure Management Plan;
24. In relation to any management plan referenced in condition 23:
- (a) The Consent Holder shall provide a working draft of the management plan to the MWR at least 3 months before the final plan will be submitted to Council for certification in accordance with the specified timeframes set out in Table 3, with

a request for any comments to be provided to the consent holder within a period of 2 months (i.e. by a time that is 1 month before the plan is due to be submitted to Council); and

- (b) The Consent Holder shall consider all comments received within the 2 month period referred to in 24(a) above, and, if requested to do so, will meet with the MWR to discuss their comments within that 2 month period. The Consent Holder will update the draft management plans, taking into account the comments from the MWR. If any comments by the MWR received within the 2 month period referred to in 24(a) above are not incorporated, the Consent Holder will provide a document to Council (copied to the MWR) that attaches the comments by the MWR and explains why any proposed comments/requested changes were not incorporated into the draft submitted to Council.

Cultural Indicators monitoring

25. The Consent Holder shall invite the MWR to nominate a suitably qualified person to prepare a Cultural Indicators monitoring programme. The objective of the Cultural Indicators monitoring programme is to specify indicators of the effects of the activities authorised by the consents, and to assist the consent holder and the Council to understand those cultural effects, including how any such effects may be minimised and / or may change over time.
26. The methodology of the mātauranga Māori-based cultural monitoring and assessment shall be determined following consultation with the MWR. Any mātauranga Māori-based assessments shall be carried out by suitably qualified individuals appointed by the consent holder on the recommendation of the MWR.
27. The Cultural Indicators referred to in condition 25 may include, but are not limited to, assessing changes in the characteristics of vegetation, the health of culturally significant flora and/or fauna, and the health of waterways and groundwater in the vicinity of the landfill.
28. The consent holder shall commission the suitably qualified individuals to undertake mātauranga Māori-based assessments in accordance with condition 26, to provide a written report on the cultural indicators monitoring on an annual basis during Initial Site Construction Works and operation of the landfill. The written report will be submitted to Council on an annual basis.
29. The working draft of each written annual report commissioned by the consent holder under condition 28 above, shall be provided to the MWR at least 2 months before the final report will be submitted to Council with a request for any comments to be provided to the consent holder within a period of 1 month (i.e. by a time that is 1 month before the report is due to be submitted to Council). The consent holder shall consider all comments that are received at least 1 month before the report is due to be submitted to Council and shall provide a response to the MWR as to how these comments have been incorporated within the final report submitted to Council. If any comments are not incorporated, the consent holder will provide a document to

Council (copied to the MWR) that attaches the comments by the MWR and explains why any proposed comments/requested changes were not incorporated into the final monitoring report submitted to the Council.

30. The Consent Holder shall cover the reasonable actual costs of developing, implementing and reporting on cultural indicators, as agreed in advance by the Consent Holder and the MWR.

Community Liaison Group

31. The Consent Holder shall, in consultation with mana whenua (or, if already established, the MWR), local community groups and representatives of local residents from Dome Valley, Wayby Valley and Wellsford establish and maintain a Community Liaison Group (CLG). The CLG shall comprise:
- (a) An independent Chair, the identity of and terms of engagement to be agreed by the consent holder and Council;
 - (b) A representative from Wayby Valley Road area residents;
 - (c) A representative from the Spindler Road area residents;
 - (d) A representative from the Dome Valley area residents;
 - (e) A representative from the Wellsford area residents;
 - (f) A local board member from Wellsford or Council nominee;
 - (g) A representative from the MWR; and
 - (h) Two representatives from the Consent Holder.

The role of this group will be to bring feedback from the community to the consent holder, disseminate information about the Landfill to the local community, and to hear concerns of local residents relating to the landfill and receive, discuss and consider material.

32. The consent holder shall take all practicable steps to ensure that the CLG comprises up to 7 representatives (including the chair but not including the consent holder). The consent holder shall host meetings of the CLG on a quarterly basis (or less frequently as determined by the CLG). Meeting minutes shall be taken by the consent holder and distributed to the members of the CLG. The Consent Holder shall cover the costs of the meeting venue, secretarial services and independent chair.

Advice Note: Meetings of the CLG will be open to the public to attend but without member rights and voting rights and will be subject to the meeting protocols set by the chairperson.

33. The Consent Holder shall present information at meetings of the CLG including:
- (a) Any proposed changes to management plans;
 - (b) Any new resource consent applications, including variations to existing consents, prior to lodgement;
 - (c) Operational aspects of the landfill; and
 - (d) The results of monitoring required as a condition of consent
- and will provide the opportunity for the CLG to give feedback on these matters.

Community Trust

34. The Consent Holder will establish, and maintain for the duration of the land-use consent, a charitable trust for the purposes beneficial to those people whose principal place of residence is within the area identified in the Landfill Management Plan. The consent holder shall provide an annual sum to the trust for the duration of the consent.

Advice Note: Further details as to the how the trust is to be established and the proposed key terms of the Trust Deed are described in the Landfill Management Plan. Once established, the operation of the Trust will be governed by the Trust Deed.

Complaints management

35. Upon receiving a complaint, the Consent Holder shall:
- (a) Make efforts to identify the nature of the complaint, the location, date and time of the alleged incident event(s);
 - (b) Acknowledge receipt of the complaint to the complainant within 1 working day of receipt;
 - (c) Notify Council of the receipt of the complaint (providing details of the nature of the complaint, the date and time the complaint was received, and the complainant's details and location if available) within 1 working day of receipt;
 - (d) Respond to the complaint in accordance with any relevant Management Plan or condition; and
 - (e) Advise the complainant as soon as the investigation is complete and no later than 10 working days following (if their contact details are provided) of what steps have been taken to investigate the complaint and remedial actions.

36. A record of all complaints received shall be kept by the Consent Holder. This record shall include:
- (a) The name and address of the person(s) who raised the complaints (unless they elect not to provide this) and time and nature of the complaint;
 - (b) Weather conditions at the time of the concern or complaint, including wind direction and cloud cover if the complaint relates to noise, dust or air quality;
 - (c) Activities occurring on site at the time ~~and~~ in the vicinity of the source of the complaint; and
 - (d) Remedial actions taken (if any) and the outcomes of these.
37. The record specified in Condition 36 shall be maintained on site by the Consent Holder, be available for inspection or a summary to be provided to Council, the CLG and MWR annually and on request.

Access to site

38. Access to the relevant parts of the property shall be maintained and made available on request at all reasonable times to enable the servants or agents of the Council to carry out inspections, surveys, investigations, tests, measurements or take samples whilst adhering to the Consent Holder's health and safety policy.

Accidental Discovery Protocol

39. Should earthworks on the site result in the identification of any previously unknown archaeological site, including any archaeological artefact, koiwi or taonga, the Land Disturbance – Regional Accidental Discovery rule [E12.6.1] set out in the Auckland Unitary Plan Operative in Part (August 2020) shall be applied. In addition, unless otherwise agreed with the MWR,
- (a) The site supervisor will ensure that no eating, drinking, and smoking occurs in the immediate vicinity;
 - (b) The Consent Holder shall notify:
 - (i) The MWR; and
 - (ii) An archaeologist appointed by the consent holder.
40. The Consent Holder shall ensure staff are available on site to guide police (as appropriate) and MWR nominee/s to the site in the event of discoveries specified in Condition 39.
41. In the case of discovery of koiwi, access to that area shall be restricted to exclude other parties until Police are satisfied the remains are not of forensic relevance.

Advice Note 1: this restriction does not include any suitably qualified experts who may be required to determine the nature or heritage value of the find.

Advice Note 2: If the parties involved are satisfied that the koiwi or taonga are of Māori origin, the MWR nominee/s will decide how they are to be dealt with and will communicate this to the New Zealand Police and other parties as appropriate. The consent holder shall meet any appropriate costs with this process.

42. The Consent Holder shall ensure that MWR have the opportunity to undertake karakia and other cultural ceremonies and activities at the site of the discovery as specified in Condition 39, as may be considered appropriate in accordance with tikanga Māori (Māori customs and protocols).
43. Any of these supplemental conditions in addition to the protocols of the Auckland Unitary Plan Accidental Discovery Rule (AUP ADR) must align with, and shall not override or replace any of, the baseline protocols contained within the AUP ADR.
44. The Consent Holder shall retain the cottage on Springhill Farm at 1232B State Highway 1, Wayby Valley and ensure it does not fall into disrepair throughout the operational life of the landfill.

Information Recovery

45. A copy of any documentation resulting from archaeological or historic heritage investigation as part of the proposed works should be forwarded to Auckland Council's Heritage Unit for inclusion within the Auckland Council Cultural Heritage Inventory. The Consent Holder's project historic heritage expert shall prepare documentation suitable for inclusion in the Cultural Heritage Inventory and forward the information to the Team Leader (for the Manager: Heritage Unit, heritageconsents@aucklandcouncil.govt.nz) within one calendar month of the completion of work on the site.
46. In the event that any unrecorded historic heritage sites are exposed as a result of authorised work on the site, then these sites shall be recorded by the Consent Holder for inclusion within the Auckland Council Cultural Heritage Inventory. The Consent Holder's project historic heritage expert shall prepare documentation suitable for inclusion in the Cultural Heritage Inventory and forward the information to the Team Leader (for the Manager: Heritage Unit, heritageconsents@aucklandcouncil.govt.nz) within one calendar month of the completion of work on the site.

Public walkways and cycle tracks

47. The Consent Holder shall, subject to reaching agreement on reasonable recommendations from the Department of Conservation and Walking Access Commission, and obtaining the necessary landowner approval and any other statutory approvals:
 - (a) Establish and maintain public access along Wilson Road;

- (b) Provide a public ridgeline track in recognition of traditional mana whenua use of the site and in recognition of tupuna, with appropriate Pou and/or information boards;
 - (c) Consider opportunities to enhance the recreational value of Sunnybrook Scenic Reserve;
 - (d) Consider opportunities to create mountain bike tracks; and
 - (e) Establish and form a walking and cycling access to and along the Waiwhiu Stream, including amenity areas that may be appropriate at any swimming or picnicking sites along the stream subject to any restriction that may be imposed by any local territorial authority or government.
48. All access tracks on the Site established in accordance with Condition 47 shall be registered by way of an esplanade strip or walkway easement or similar instrument securing public access within 12 months of being completed. Such access arrangements shall be subject to any requirements to protect native flora, fauna or taonga.

Gas and Petroleum pipelines

49. Any sub-surface activity within 20 metres of the centre-line of Designation 9101 (Taupaki to Topuni Gas Pipeline) and Designation 6500 (Petroleum Pipeline) shall require the written authorisation from the infrastructure asset owner prior to the works commencing.
50. In consultation with New Zealand Refining Company Ltd and First Gas Ltd, the Consent Holder shall develop procedures, methods and measures to be implemented during any works or construction activities within 20 metres of the centre-line of Designation 9101 (Taupaki to Topuni Gas Pipeline) and Designation 6500 (Petroleum Pipeline) to:
- (a) Manage any works or construction activities which have the potential to affect the continued safe and efficient operation of the designated infrastructure assets specified above; and
 - (b) Meet applicable standards and Codes of Practice applying to the design and construction of works that interface with the designated infrastructure assets specified above.
51. The high-pressure gas and petroleum pipelines shall be accurately shown and labelled on all design, tender, and construction drawings, and landfill operation and management plans.

Baseline monitoring

52. Baseline sampling and analysis of surface water, groundwater and groundwater levels from each of the monitoring locations listed in Table 1, or other locations proposed by the Consent Holder or Council (any such changes to be approved by the

Council), shall be undertaken three monthly (quarterly) for groundwater and monthly for surface water, for a continuous period of at least four years prior to the Initial Construction Commencement Date, with the exception of any new parameters which may be added during the consenting process, in which case monitoring of those parameters shall commence within three months of consent being granted.

The Consent Holder shall ensure four years of baseline turbidity monitoring of surface water at Site SW3, except if forest harvest commences in Valley 1 within those four years then baseline turbidity monitoring of surface water at Site SW4 may replace the part of the four year period after commencement of forest harvest, subject to an overlap period of at least one year of baseline turbidity monitoring of both SW3 and SW4 prior to forest harvest.

Advice Note: Baseline monitoring undertaken prior to consent being granted can form part of the continuous period of baseline monitoring.

Table 1: Baseline Water monitoring locations

Reference	Groundwater level	Groundwater chemistry
BH1	*	* (Note 1)
BH2	*	*
BH3	*	*
BH4	*	
BH5	*	*
BH6	*	*
BH7	*	*
BH8	*	
BH9	*	* (Note 1)
BH10	*	* (Note 1)
BH11	*	
BH12	*	
BH13	*	*
BH14	*	
BH15 (until removed for landfill footprint)	*	*
TB01 (potable)		*
BH20 (baseflow effects in Upper Waiteraire Tributary Catchment)		

Note 1: Baseline measurements only. Not required to be ongoing during landfill operations. Remaining locations will be retained and used as monitoring locations throughout the landfill operation.

Reference	Macroinvertebrates, periphyton and macrophytes	Surface water chemistry
MC1	*	
MC2	*	
MC3	*	
MC4	*	
MC5	*	
MC6	*	
SW1		*
SW3		*
SW4		*

53. The baseline analysis of groundwater chemistry and surface water chemistry required by Condition 52 shall be for the following parameters:

Table 2: Parameters for groundwater and surface water chemistry baseline analysis

PARAMETER	UNITS
Temperature	°C
Sodium	g Na/m ³
pH	
Chloride	g Cl/m ³
Conductivity	mS/m
Potassium	g K/m ³
Total Ammoniacal Nitrogen	g N/m ³
Total Hardness	g CaCO ₃ /m ³
Zinc (soluble)	g Zn/m ³
Manganese (soluble)	g Mn/m ³
COD	g O/m ³
Arsenic (soluble)	g As/m ³
Copper (soluble)	g Cu/m ³
Lead (soluble)	g Pb/m ³
Nitrate Nitrogen	g N/m ³
Sulphate	g SO ₄ /m ³
Alkalinity	g CaCO ₃ /m ³
Boron	g B/m ³
Nickel (soluble)	g Ni/m ³

Calcium	g Ca/m ³
Iron (soluble)	g Fe/m ³
Magnesium (soluble)	g Mg/m ³
Total Phosphorous	g P/m ³ (surface water only)
Dissolved oxygen	g O ₂ /m ³ (surface water only)
Volatile Organic Compounds	g/m ³ (surface water only)
Semi Volatile Organic Compounds	g/m ³ (surface water only)

Vegetation Covenants

54. The Consent Holder shall enter into covenants in favour of Council. The covenants shall:
- (a) Protect indigenous/native forest, riparian margins and wetlands as shown on Proposed Revegetation Plan, Figure 1, rev 1 dated November 2020 from development;
 - (b) Protect any riparian, wetland and terrestrial planting undertaken on the WMNZ landholdings as a requirement of the conditions of this consent that is required to be protected in perpetuity;
 - (c) Be drafted and submitted to the council's nominated Solicitor for certification at the Consent Holder's cost;
 - (d) Be registered against the Computer Register(s) (records(s) of title) to the affected land by the Consent Holder at their cost; and
 - (e) Require the Consent Holder to:
 - (i) Be responsible for all legal fees, disbursements and other expenses incurred by the Council in connection with the covenant; and
 - (ii) Reimburse the Council for costs, fees, disbursements and other expenses incurred by the Council as a direct or indirect result of the council being a party to this covenant.
55. A copy of the updated Computer Register (record of title) showing that the covenant has been registered shall be provided to the Council within one (1) year of Initial Site Construction Works being completed, or within one year of completion of forestry activities in the areas where pine harvest is required to occur prior to planting of native vegetation.

Review of Human Health Risk Assessment

56. The Consent Holder shall review monitoring data and provide the Council an updated Human Health Risk Assessment (HHRA) report every 10 years after the Landfill

Commencement. The HHRA shall take into account cumulative effects from new contaminant sources in the vicinity of the landfill facility.

Review of conditions

57. The conditions of this Consent may be reviewed by the Council pursuant to Section 128 of the Resource Management Act 1991, by the giving of notice pursuant to Section 129 of the Act in order to:
- (a) Deal with any significant adverse effect on the environment arising from the exercise of the Consent that was not foreseen at the time that the application was considered;
 - (b) Consider the adequacy of conditions that prevent nuisance beyond the boundary of the Site, particularly if complaints have been received on a frequent basis and have been validated by an enforcement officer;
 - (c) Consider developments in emission control technology and management practices that would enable practical reductions in discharges to air; and
 - (d) To take into account any act of parliament, regulation, national policy statement or relevant regional plan that relates to limiting, recording or reducing emissions authorised by this Consent.

PART C – MANAGEMENT PLANS

Management and Monitoring Plan certification

58. The Consent Holder shall prepare the following management plans for certification by Council and in accordance with the specified timeframes as set out in Table 3. The Consent Holder shall prepare the management plans in accordance with the requirements of the relevant condition.

Table 3: Management Plan certification timeframes

(a) **Construction Management Plans**

Management Plan	Condition reference	Certification timeframe
Construction Environmental Management Plan	66	3 months prior to initial construction commencement date
Construction Traffic Management Plan	162	3 months prior to initial construction commencement date
Construction Noise and Vibration Management Plan	168	3 months prior to initial construction commencement date
Stream and Wetland Works Methodology Management Plan	69	3 months prior to any works within a wetland or stream
Construction Erosion and Sediment Control Plan	125	3 months prior to initial construction commencement date
Site Specific Erosion and Sediment Control Plan	126	1 month prior to initial construction commencement date
Erosion and Sediment Control Adaptive Management Plan	145	3 months prior to initial construction commencement date
Dam Safety Management Plan	181	3 months prior to the waste being accepted

(b) **Ecological, Landscape and Visual Effects Management Plan**

Management Plan	Condition reference	Certification timeframe
Ecological, Landscape and Visual Effects Management Plan (overarching plan, with below sub-plans)	76	3 months prior to initial construction commencement date
• Bat Management Plan	80	3 months prior to initial construction commencement date

• Lizard Management Plan	83	3 months prior to initial construction commencement date
• Avifauna Management Plan	82	3 months prior to initial construction commencement date
• Hochstetter's Frog Management Plan	84	3 months prior to initial construction commencement date
• Native Freshwater Fish and Fauna Management Plan	85	3 months prior to initial construction commencement date
• Invertebrates Management Plan	88	3 months prior to initial construction commencement date
• Vegetation Clearance Management Plan	89	3 months prior to initial construction commencement date
• Kauri Dieback Management Plan	90	3 months prior to initial construction commencement date
• Ecological and Landscape Enhancement & Restoration Plan	91	3 months prior to initial construction commencement date
• Ecological Pest Animal Management Plan	102	3 months prior to initial construction commencement date

(c) **Stream Offset Works Plan**

Management Plan	Condition reference	Certification timeframe
Stream Offset Works Plan	120	6 months prior to initial construction commencement date

(d) **Landfill Management Plan – Landfill Operations**

Management Plan	Condition reference	Certification timeframe
Landfill Management Plan (Overarching plan, with below sub-plans)	356	3 months prior to acceptance of waste
• Streamworks Methodology Management Plan – Seasonal Construction	389	3 months prior to any works within that wetland or stream
• Bin Exchange Area Management Plan	361	3 months prior to acceptance of waste
• Site Emergency Management Plan	362	3 months prior to acceptance of waste

• Landfill Gas Management Plan	363	3 months prior to acceptance of waste
• Operational Erosion and Sediment Control Plan	365	3 months prior to annual seasonal construction period
• Stormwater and Industrial and Trade Activities Management Plan	368	3 months prior to acceptance of waste
• Stormwater System Operation and Maintenance Plan	371	3 months prior to acceptance of waste
• Stormwater Monitoring and Contingency Plan	375	3 months prior to acceptance of waste
• Groundwater Monitoring and Contingency Plan	382	3 months prior to acceptance of waste
• Pest Control Plan – Landfill Operations	384	3 months prior to the landfill commencement date
• Leachate Monitoring and Contingency Plan	387	3 months prior to the landfill commencement date

(e) **Aftercare and Post Closure Management Plan**

Management Plan	Condition reference	Certification timeframe
Post Closure Management Plan	396	12 months prior to reasonably projected landfill closure.

Management and Monitoring Plan approvals

59. The Consent Holder shall submit the above plans in accordance with the above timeframes in Table 3. Should Council decline to certify the plan or request the incorporation of changes to the original plan, the consent holder may then resubmit a revised plan.

Management and Monitoring Plan revisions

60. The Consent Holder may make amendments to the final monitoring and management plans that may change how any adverse effect is managed at any time before the relevant works are undertaken subject to the certification of Council prior to the change taking effect.
61. The amendment to the monitoring or management plan(s) shall be consistent with the objectives and performance requirements of the plan and these consent conditions.
62. In the event of an amendment to a management or monitoring plan under Condition 60, the Consent Holder must submit, in writing, the amendment to Council for

certification that the amendment meets the objectives and performance requirements of the plan, at least 20 working days before the commencement of the relevant works.

63. Should Council decline to certify the amendment or request the incorporation of changes to the amendment, the Consent Holder may then resubmit a revised material amendment to the plan.
64. The Certification process for a revised amendment shall follow the same process described above in Condition 60.

Initial Construction Management Plans

65. The Consent Holder shall prepare the following Management Plans for Initial Site Construction Works, each encompassing a number of sub-topic Management Plans:
 - (a) Construction Environmental Management Plan (CEMP);
 - (b) Construction Traffic Management Plan (CTMP);
 - (c) Construction Noise and Vibration Management Plan (CNVMP);
 - (d) Construction Erosion and Sediment Control Plan (CESCP);
 - (e) Site Specific Erosion and Sediment Control Plan (SSESCP); and
 - (f) Streamworks and Wetland Methodology Management Plan (SWMMP).

Construction Environmental Management Plan

66. The Consent Holder shall prepare and submit a Construction Environmental Management Plan (CEMP) to Council for certification at least three months prior to the Construction Commencement Date. The purpose of the CEMP shall be to establish general procedures for all of the enabling works up until the landfill opens so that the construction works remain within the limits and standards approved under this consent and set out the management procedures and construction methods to be undertaken in order to avoid, remedy or mitigate potential adverse effects arising from construction activities.
67. The CEMP shall specify which upcoming stage of work is being addressed by the CEMP at the time the CEMP is submitted for certification by Council. Whenever further details are to be provided in advance for later stages of the work, then the CEMP shall be revised and again clearly state which aspects of the upcoming work are covered within the submitted plan.
68. The CEMP shall provide details of the responsibilities, reporting frameworks, coordination and management required for effective site management. The CEMP shall provide information on the following matters:
 - (a) Construction works programming;

- (b) Site management;
- (c) Consultation and communications;
- (d) Confirmation of the construction methodology, including for permanent and temporary structures and clear identification of working areas and sensitive areas to be protected;
- (e) Contact details of the Consent Holder's Project Liaison Person (phone, postal address, email address);
- (f) Methods and systems to inform and train all persons working on the site of potential environmental issues and how to avoid remedy or mitigate any potential adverse effects;
- (g) Procedures used to avoid discharges of contaminants from the refuelling, cleaning, maintenance and storage of plant and equipment;
- (h) Measures to address the storage of fuels, lubricants, hazardous and/or dangerous materials, in particular measures to ensure hazardous substances are stored outside of the 1 per cent annual exceedance probability (AEP) floodplain; and
- (i) Contingency procedures to address emergency spill response(s) and clean up; and
- (j) Procedures for incident management and to deal with extreme weather events.
- (k) Measures to minimise the discharges of dust off-site as far as practicable.

Stream and Wetland Works Methodology Management Plan

69. Three months prior to any works within a specific stream or wetland-commencing, a detailed Stream and Wetland Works Methodology Management Plan (SWMMMP) shall be prepared, submitted to, and certified by Council. The objective of the plan is to set out the specific measures to be implemented during reclamation and culvert installation to minimise the discharge of sediment from the works area and to minimise effects on native freshwater fauna. The streamworks methodology shall include but is not limited to:
- (a) Methodologies and erosion and sediment control measures specific to the stream or wetland works being undertaken (providing location, dimensions, capacity, supporting calculations and design drawings) and confirmation that all controls are in accordance with industry best practice or the guidance contained in GD05, whichever higher standard is applicable;
 - (b) Timing and duration of works (in relation to the staging and sequencing of both stream and wetland works and earthworks), including scheduling at times when normal (for the time of year) in-stream flows can be diverted around the works and a four-day weather forecast predicts no rainfall;

- (c) Reference and adherence (where applicable) to the Native Freshwater Fish and Fauna Management Plan required by condition 85;
- (d) Contingency plans and measures, including stabilisation of works areas over night or during rain;
- (e) Monitoring and maintenance requirements for the proposed erosion and sediment controls; and
- (f) Permanent stabilisation measures of stream bed and banks upon completion of the specific works.

Advice Note: The streamworks methodology may be submitted for the whole site or as a number of plans for specific works areas to allow for different methods within different areas and different timing/staging of works.

- 70. Stream and wetland works shall only be carried out in accordance with the approved SWMMP required in Condition 69.
- 71. Notwithstanding condition 70 above, no stream or wetland works on the subject site shall be undertaken between 1 May and 30 September in any year, without the prior written approval of Council.
- 72. Prior to the commencement of works within streams or wetlands as part of the Initial Site Construction Works (i.e. bridge and culvert construction, and reclamation), the Consent Holder shall hold a pre-start meeting that:
 - (a) Is located on the subject site;
 - (b) Is scheduled not less than five days before the anticipated commencement of streamworks;
 - (c) Includes Council; and
 - (d) Includes representation from the contractors who will undertake the works.

The meeting shall discuss the erosion and sediment control measures and the streamworks methodologies and shall ensure all relevant parties are aware of and familiar with the necessary conditions of this consent.

- 73. The following information shall be made available at the pre-start meeting:
 - (a) Timeframes for key stages of the works authorised under this consent;
 - (b) Resource consent conditions;
 - (c) Native Fish Capture and Relocation Plan; and
 - (d) Streamworks Methodology including associated site-specific erosion and sediment control plans.

Advice Note: Pre-start meetings can be staged in relation to specific works areas. To arrange the pre-start meeting please contact the Council on monitoring@aucklandcouncil.govt.nz or 09 301 0101. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

74. Dewatering of streams and wetlands as authorised by this consent shall only be carried out after native fish capture and relocation has been undertaken in accordance with the certified Native Freshwater Fish and Fauna Management Plan.
75. Except for streams being removed, no machinery shall enter the wetted cross section of the bed of any stream at any time. All machinery shall be operated (including maintenance, lubrication and refuelling) in a way which ensures no hazardous substances such as fuel, oil or similar contaminants are discharged. In the event that any discharge occurs, works shall cease immediately, and the discharge shall be mitigated and/or rectified to the satisfaction of Council.

Advice Note: Refuelling, lubrication and maintenance activities associated with any machinery should be carried out away from any water body with appropriate methods in place so if any spillage does occur that it will be contained and does not enter the water body. Maintenance / servicing areas should be detailed in the final Streamworks Methodology.

Ecological Landscape and Visual Effects Management Plan

76. The Consent Holder shall develop an Ecological, Landscape and Visual Effects Management Plan (ELVEMP), prepared by an appropriately qualified ecologist/s, and where relevant, an appropriately qualified landscape architect. The Consent Holder shall consult with the Department of Conservation and MWR during the development of the draft plan. The ELVEMP shall be submitted to Council at least three months prior to the Initial Construction Commencement Date for certification. If changes recommended by either party are not adopted, an explanation of why these changes have not been adopted shall be provided. The objective of the ELVEMP is to address the potential adverse effects of the project on landscape, ecological and indigenous biodiversity values.
77. The ELVEMP shall be comprised of the following sub-sections (described in conditions 80 - 110). For the avoidance of doubt, the sections below can be prepared as a standalone plan or as part of the ELVEMP. All of the below plans shall be prepared in consultation with MWCLG and the Department of Conservation (as necessary).
 - (a) Bats;
 - (b) Avifauna (birds);
 - (c) Lizards;
 - (d) Hochstetter's frogs;
 - (e) Freshwater fauna;

- (f) Invertebrates (peripatus, snails);
 - (g) Vegetation clearance;
 - (h) Kauri dieback;
 - (i) Ecological and Landscape Enhancement and Restoration; and
 - (j) Ecological Pest Animal Management.
78. By 1 December of each year of the initial construction period, an appropriately qualified ecologist(s) shall certify that fauna relocations have been carried out in accordance with the approved ELVEMP and shall provide details of any species removed or relocated to the Council's ecologist.
79. Following completion of the Initial Site Construction Works, the Consent Holder may review and re-submit the ELVEMP for certification in accordance with Condition 76, with the sections which are no longer relevant removed.

Bats

80. At least three months prior to the Initial Construction Commencement Date, the Consent Holder shall provide a Bat Management Plan (BMP) to Council for certification. Certification shall be against the conditions of this consent, the objective set out below, and the draft Bat Management Plan dated 16 November 2020. The objective of the BMP is to set out the procedures to be implemented by the Consent Holder to avoid and mitigate the effects on long-tailed bats from the removal of any vegetation and/or trees that are potential bat roost habitat. The BMP shall be prepared by a suitably qualified ecologist. The BMP shall include standard best practice tree felling protocol and lighting management.

Advice Note: This plan needs to be read in conjunction with the other sections of the ELVEMP.

81. In particular the BMP shall include:
- (a) A vegetation removal protocol prepared by a qualified bat ecologist that sets out the monitoring procedures to be implemented for the removal of any vegetation and/or trees that are identified as potential bat roosts. This can be achieved through acoustic surveys, direct observation of trees prior to their removal, and by managing the time (month) of removal;
 - (b) Details of ongoing monitoring and reporting of bat activity where occupied bat roosts are discovered;
 - (c) Management actions to minimise disturbance to bats from temporary or permanent lighting associated with the activities;
 - (d) Proposal for minimising disturbance from construction activities near any discovery of active roosts until the bat ecologist confirms they are vacant; and

- (e) Methods for the replacement of any actual and potential bat roosts that are removed as part of the proposal.

The vegetation removal protocol set out in the BMP shall be implemented for the removal of any vegetation and/or trees that are identified as potential bat roosts by a suitably qualified ecologist.

Avifauna (birds)

82. An Avifauna Management Plan (AMP) shall be submitted to Council for certification at least three months prior to the Initial Construction Commencement Date. Certification shall be against the conditions of this consent, the objective set out below, and the draft Avifauna Management Plan dated 16 November 2020. The AMP shall be prepared by a suitably qualified and experienced ecologist. The objective of the plan is to avoid or minimise any potential effects on avifauna from the construction works during breeding season. The AMP shall provide forest and wetland bird breeding protection and effects minimisation including:
- (a) Seasonal constraints on felling and/or noise disturbance in habitats that are likely to have high bird values to avoid or minimise harm to eggs and chicks;
 - (b) Proposed controls for maintaining a 30 m setback of construction works from the margin of wetlands during peak breeding season (September – December); and
 - (c) A process for ensuring no nesting birds are present within vegetation to be cleared if works are required during peak breeding season (September – December).

Advice Note: This plan needs to be read in conjunction with the other sections of the ELVEMP, which address offset/compensation measures.

Lizards

83. A Lizard Management Plan (LizMP) shall be submitted to Council for certification at least three months prior to the Initial Construction Commencement Date. Certification shall be against the conditions of this consent, the objective set out below, and the draft Lizard Management Plan dated 16 November 2020. The objective of this plan is to minimise any potential effects on indigenous skinks and/or geckos within the vegetation. Copies of any Department of Conservation permits shall be attached to the plan. The LizMP shall be prepared by a suitably qualified and experienced herpetologist and shall include:
- (a) Timing of the works;
 - (b) A description of salvaging methodology; and
 - (c) A description of relocation methodology, including transfer methods, relocation site(s) selection and habitat enhancement measures (such as deployment of logs and pest control).

Advice Note: This plan needs to be read in conjunction with the other sections of the ELVEMP, which address offset/compensation measures.

Hochstetter's frog

84. A Hochstetter's Frog Management Plan (HFMP) shall be submitted to Council for certification at least three months prior to the Initial Construction Commencement Date. Certification shall be against the conditions of this consent, the objective set out below and as set out in more detail in the draft Frog Management Plan dated 16 November 2020, and with that management plan. The objective of this plan is to minimise any potential effects on frogs within streams and to maximise the potential for success of any relocation of frogs. The HFMP shall be prepared by a suitably qualified and experienced herpetologist and shall include:
- (a) Copies of any Department of Conservation permits;
 - (b) Timing of the works;
 - (c) A description of salvaging methodology;
 - (d) A description of relocation methodology, including transfer methods, relocation site(s) selection and habitat enhancement measures (such as deployment of rock refugia and pest control); and
 - (e) Proposed monitoring at the relocation site(s).

Advice Note: This plan needs to be read in conjunction with the other sections of the ELVEMP, which address offset/compensation measures.

Freshwater fauna

85. A Native Freshwater Fish and Fauna Management Plan (NFFFMP), prepared in general accordance with the draft NFFFMP dated 16 November 2020, shall be submitted to Council for certification at least three months prior to the Construction Commencement Date. Certification shall be against the conditions of this consent, the objective set out below and as set out in more detail in the draft NFFFMP dated 16 November 2020, and with that management plan. The objective of this plan is the recovery and relocation of fish, kōura and kākahi (if present) in the sections of waterways affected by instream works, prior to instream works occurring. The NFFFMP shall be prepared by a suitably qualified and experienced aquatic ecologist and shall include:
- (a) The CEMP and SWMMP methods referred to in the Section 92 response dated 20 December 2019 and required by conditions 66 and 69;
 - (b) The timing and duration of fish capture taking into account the timing of construction and forestry works to ensure capture occurs before Initial Site Construction Works, including vegetation removal;

- (c) The timing of streamworks to consider the spawning and migration period of fish present in the affected catchment;
 - (d) The methodologies used to ensure fish are captured and transported in accordance with best practice;
 - (e) Update salvage effort and reduction rates to ensure residual adverse effects on indigenous freshwater fauna are minimised to the extent practicable;
 - (f) Placement of appropriate fish screens on the inlets of any pumps used;
 - (g) Specific measures for ensuring fish upstream and downstream in the catchment do not enter the works area;
 - (h) Specific measures to provide for passage past the works area (if required);
 - (i) Fauna relocation sites including an assessment of habitat quality, suitability and capacity; and
 - (j) Euthanasia methods for diseased or pest species.
86. A suitably qualified freshwater ecologist shall oversee the streamworks for the project and specifically to conduct the freshwater fauna relocation as per the NFFFMP.
87. The Consent Holder shall provide a report on the results of the native fish relocation within 20 working days of fully implementing the NFFFMP.

Advice Note: Condition 85 does not discharge the consent holders' responsibilities under any other Act.

Advice Note 2: This plan needs to be read in conjunction with the other sections of the ELVEMP, which address offset/compensation measures.

Invertebrates

88. An Invertebrate Management (IMP) shall be submitted to Council for certification at least three months prior to the Initial Construction Commencement Date. Certification shall be against the conditions of this consent, the objective set out below and as set out in more detail in the draft IMP dated 16 November 2020, and with that management plan. The objective of this plan is to describe the specific procedures to address potential adverse effects associated with the construction and operation of the Project on peripatus, rhytid snails and kauri snails (if present) through salvage and relocation. The IMP shall be prepared by a suitably qualified ecologist and shall include:

In relation to peripatus:

- (a) Timing and duration of works;

- (b) Identification of decaying logs (high quality peripatus habitat) that can be relocated. A minimum of 10 logs or 10% of available and moveable decaying logs shall be relocated; and
- (c) Relocation methods, including transfer methods and selection of appropriate native forest relocation site(s).

In relation to snails:

- (d) Timing and duration of the works;
- (e) A description of salvaging methods;
- (f) A description of relocation methods, including transfer methods, relocation site(s) selection and pest control; and
- (g) Copies of any Department of Conservation permits shall be attached to the plan.

Advice Note: This plan needs to be read in conjunction with the other sections of the ELVEMP, which address offset/compensation measures.

Vegetation Clearance Management Plan

89. A Vegetation Clearance Management Plan (VCMP) shall be submitted to Council for certification at least three months prior to the Construction Commencement Date. Certification shall be against the conditions of this consent, the objective set out below and as set out in more detail in the draft VCMP dated 16 November 2020, and with that management plan. The objective of this plan is to describe the measures to minimise the area of habitat/vegetation impacted by the project construction of the project. The plan shall be prepared by an appropriately qualified ecologist(s) and shall address native forest and wetland protection and effects minimisation measures, including:

- (a) Vegetation clearance protocols to protect surrounding habitat and to avoid intrusion of construction works beyond the construction area, such as the physical delineation/protection of areas and individual significant or high value large trees that are close to but outside the project footprint, directional felling of vegetation away from areas which are to be retained and protected, or sediment controls around wetlands;
- (b) Timing of removal of indigenous vegetation (of contiguous areas more than 10 m²) to avoid the bird breeding season (September – December inclusive) to the extent practicable;
- (c) Proposed measures to stockpile and manage cleared vegetation to avoid or minimise potential adverse effects (e.g. lizards not detected during salvaging or from wood leachate);

- (d) Procedures for moving felled logs with a dbh (diameter at breast height) of 60 cm or greater into areas proposed for revegetation. 12 m of felled logs shall be moved into each hectare of revegetation planting; and
- (e) Consideration of bat roosts as required by Condition 81.

Advice Note: This plan needs to be read in conjunction with the other sections of the ELVEMP, which addresses offset/compensation measures.

Kauri Dieback Management Plan

90. At least three months prior to the initial construction commencement date, the consent holder shall submit a Kauri Dieback Management Plan (KDMP) to the Council for certification. The objective of the KDMP shall be to set out the protocols and monitoring to be used for the works to form the access road to Stockpile 1 and the Clay borrow area, to avoid and minimise the risks of introducing or spreading kauri dieback disease. The KDMP shall be prepared by a suitably qualified expert in biosecurity, plant pathology or similar and shall be prepared in accordance with the Draft KDMP. The KDMP will as a minimum stipulate:
- (a) How Kauri Contamination Zones (KCZs) in proximity to the stockpile access road will be protected from access through the implementation of a 10m minimum separation from the access road to the trunk of any Kauri trees, identified and signposted to clearly communicate the delineation and protocols required in relation to the KCZ;
 - (b) The kauri dieback hygiene protocols to be followed by any staff or visitors entering a KCZ;
 - (c) The tree protection protocols to be followed in order to minimise damage or stress to kauri in proximity to the stockpile access road or with rootzones extending into the access road works area;
 - (d) Measures to minimise the need for works within the KCZ, and how works within KCZs will be carried out in a manner that minimises the impact on the kauri and the risk of introducing or spreading *P. agathidicida* within or between KCZs;
 - (e) Identification of the suitably qualified person who will supervise works within KCZs;
 - (f) Methods used to remove all soil from and decontaminate vehicles, equipment, personnel, footwear etc when entering and exiting KCZs, and how run-off from this activity will be contained and disposed of in a manner that poses minimal risk of spreading *P. agathidicida*;
 - (g) How drainage, run-off, or other water discharges from the access road will be directed away from kauri and their rootzones;
 - (h) How material from within KCZs will be transported to approved landfill facilities with minimal risk of material loss enroute; and

- (i) The KDMP should be reviewed and updated to reflect the most up-to-date best practice for the prevention and treatment of kauri dieback, to ensure that when works commence, the most appropriate controls are in place to manage the spread of kauri dieback disease.

Advice Note: This plan needs to be read in conjunction with the other sections of the ELVEMP, which addresses offset/compensation measures.

Ecological and Landscape Enhancement and Restoration Plan

- 91. A Ecological and Landscape Enhancement and Restoration Plan (ELERP) shall be submitted to Council for certification at least three months prior to the Construction Commencement Date, with such certification to be measured against the objectives and details within conditions 93 - 101. The ecological objective of this plan is to meet the relevant conditions of this consent and to describe forest, wetland, and riparian and wetland margin revegetation undertaken for the project. The landscape objectives are as set out below at Condition 96. The focus of the ELERP is the replacement/replanting of plant species that have been affected by the project and the optimisation of ecological benefits through improving ecological connectivity between habitat types and protecting significant habitat types through buffer/margin plantings. The ELERP shall be consistent with and complementary to the Ecological Pest Animal Management Plan required by condition 102.
- 92. The planting areas shall be in general accordance with those shown on Proposed Revegetation Plan, Figure 1, rev 1 dated November 2020.
- 93. The numbers set out below will be subject to finalisation of the overall ecological effects management package
 - (a) Planting and protection of [6.7]km of stream and retirement and protection of [11.2]km of stream within or as close as practicable to the WMNZ landholdings;
 - (b) Planting and protection through covenant of [41.95] ha of native terrestrial vegetation within WMNZ landholdings;
 - (c) Ecological enhancement pest control on WMNZ landholdings and Sunnybrook Reserve;
 - (d) Protection of [94.54] native forest areas within WMNZ landholdings by covenant;
 - (e) Planting and protection of [44.88] ha of degraded wetlands within the Western Block that are not affected by the project by covenant;
 - (f) Planting of wetland buffers of 10 m-around SEA and non-SEA wetlands within the Western Block, approximately [21.3 ha] ha; and
 - (g) Protection of all wetland habitats and associated buffer plantings by covenant, approximately [66.18] ha.

94. In addition to the above, the planting shall be based on the conceptual layouts of the Mitigation Plans depicted in Figure 8: Site Wide Ecological and Landscape Plan, Revision: C – Drawing No.A18038B_15 dated 15 December 2020 and Figure 9: Landfill Area Ecological and Landscape Plan, Revision: C – Drawing No.A18038B_12 dated 15 December 2020 and the ecological management plans outlined in Conditions 76-110.

Advice Note: The ELERP forms a sub-plan of the ELVEMP (condition 76)

95. The landscape objectives of the ELERP shall ensure that ongoing landscape management is undertaken in order to continue to avoid, remedy and mitigate the actual and potential adverse landscape and visual effects of the consented landfill operations through the following measures:
- (a) Establish and maintain tree shelterbelts to provide effective visual screening of the landfill during its development and during the aftercare period;
 - (b) Native revegetation along the cut and fill slopes around the bin exchange area and along the main access road;
 - (c) Planting of fast growing trees and native plants adjacent to the roundabout and State Highway 1 to re-establish this roadside character and provide further screening of the project activities;
 - (d) Management of the off-site visually exposed face of the stockpiles wherever possible, with the front face formed, shaped and vegetated, as filling progresses;
 - (e) Stabilisation with grass, erosion mats or tarps, of bare earth surfaces of the stockpiles and clay borrow pit areas on completion of filling/earthworks at the end of each summer earthmoving season;
 - (f) Planting on the side slopes and ridges around the perimeter of Valley 1 and around the stockpiles and clay borrow pit to assist in integrating and screening project works;
 - (g) Screen planting along access roads within the site to the extent practicable;
 - (h) Ensure planting is of appropriate scale and mix of species to reflect the existing vegetation structure of the rural and forested area; and
 - (i) Outline an ongoing and adaptive planting and management process for the landfill both during its development and during the aftercare period.
96. The details of the ELERP shall include:
- (a) Confirmation of the areal extent and spatial configuration of plantings proposed;
 - (b) Description of the objectives of the mitigation, offset and compensation planting / landscape treatment, including the intent of each of the planting areas and how this will be fulfilled over time as the plants develop and age, including details of

how the anticipated outcomes used in the SEV calculations and Biodiversity Offset Accounting Model (where relevant) will be achieved;

- (c) Identification of areas of existing vegetation to remain or be removed and the methodology for managing, and supplementing this vegetation where necessary in a timely manner to maintain the objectives;
 - (d) Site preparation, e.g. fencing, weed or animal pest management and habitat enhancement (e.g. deployment of felled logs in revegetation sites);
 - (e) Timing of plantings;
 - (f) Schedules of planting, including plant species composition, plant sizes, plant densities, measures of stock condition (e.g. health of plant stock) the use of growth enhancement measures where required (e.g. fertiliser tablets or stock guards). Where available, plants will be eco-sourced native species from the Rodney ecological district. Planting plans for stream riparian margins and wetland areas shall be in accordance with the Auckland Regional Council Riparian Zone Management Strategy for the Auckland Region, Technical Publication 148, June 2001 (TP148) and Appendix 16 of the Auckland Unitary Plan 'Guideline for native revegetation plantings';
 - (g) Plant maintenance methods for ensuring successful establishment and long-term persistence of plantings, including the duration of maintenance, methods for ongoing control of weed or animal pests and infill planting;
 - (h) Monitoring and reporting requirements, including at a minimum annual reporting to Council for a period of no less than 5 years or until canopy closure is achieved;
 - (i) Covenanting/encumbrance details
 - (j) A method for a site-specific assessment of the risk of stream bank erosion and the likely successful establishment of proposed riparian planting where relevant.
97. Should the actual area of habitat impacted by the project be reduced through detailed design, the Consent Holder shall have the ability to demonstrate, using best practice transparent and quantified accounting methods prepared by a suitably qualified ecologist, that the required area of ecological restoration has been reduced. This is subject to the consent holder providing sufficient evidence of the actual area of clearance and/or reclamation and demonstrating to Council that the area of clearance is less than the consented area. The Consent Holder shall then submit an updated ELERP based on the revised restoration planting area.
98. All plantings from the Myrtaceae family of species shall be sourced from a nursery that is a signatory to Myrtle Rust Nursery Management Declaration V6, 11 October 2017 that certifies that the plant producer has implemented the New Zealand Plant Producers Incorporated Myrtle Rust Nursery Management Protocol (Myrtle Rust

Nursery Management Protocol – V6, 11 October 2017) or the latest version available at the time of planting.

99. All restoration and mitigation planting described in the ELERP shall be implemented and completed within five (5) years following commencement of consent. Written confirmation shall be provided to Council within 30 days of the works being completed confirming that all planting and habitat enhancement works have been completed in accordance with the ELERP.
100. The ELERP shall include details pertaining to the monitoring and maintenance plan for a period of five (5) years to ensure plant densities and 90% survival rate are maintained. Any plants that die should be replaced the following planting season. Replacement planting and planting maintenance shall continue beyond year 5 until 90% survival and canopy closure is achieved. Monitoring timing shall be specified in the ELERP and shall be undertaken at times that avoid transient conditions, such as flood events. Monitoring shall include site photographs to demonstrate that a compliment of facultative wetland species at a density and a planting survival rate of at least 90% that is in accordance with the ELERP referenced in condition 91. The Consent Holder shall provide photographs that demonstrate a minimum 90% survival rate of all planted and restoration areas. Any plants that die should be replaced the following planting season. The findings of the monitoring shall be reported to Council on a two-yearly basis. The frequency, duration and nature of reporting shall be specified in the ELERP.
101. The ELERP shall include the provision of funding for the purpose of supporting a research project on the impacts of pests on frog populations as described in the ELERP.

Ecological Pest Animal Management Plan

Advice Note: These conditions refer to the pest management programme being offered to help address adverse effects of the project on ecological values. Separate conditions are proposed (Conditions 384 to 386) to address predators and vermin within the landfill operational areas.

102. An Ecological Pest Animal Management Plan (EPAMP) shall be prepared by a suitably qualified ecologist. The EPAMP shall be prepared and submitted to Council for certification three months prior to the Initial Construction Commencement Date. Certification shall be against the conditions of this consent, the objective set out below and as set out in more detail in the draft EPAMP dated 16 November 2020, and with that management plan. The objective of the EPAMP shall be to undertake pest animal control for the purposes of ecological enhancement. The objective of the EPAMP is to achieve:
 - (a) A long-term reduction in rat, possum, feral cat and mustelid densities;
 - (b) A long-term reduction in deer, feral goat and pig densities; and

- (c) The exclusion of farm stock within habitat for native fauna and areas of native vegetation within the WMNZ landholdings.
103. The EPAMP shall specify:
- (a) Target pest species and target thresholds to be aimed for to achieve the objectives of the EPAMP; and
 - (b) Methods to achieve target species outcomes, which may include descriptions of spatial configuration of bait lines and baiting and/or trapping details including types of baits/traps and frequency of baiting; and
 - (c) A description of monitoring/auditing proposed in accordance with standard accepted practice.
104. Pest control specified in the EPAMP shall commence one month prior to initial construction works commencing. Pest control shall be undertaken in accordance with the EPAMP for the duration of the construction and operation of the landfill (i.e. placement of waste) within:
- (a) All native bush and wetland habitat that will remain on WMNZ land after the project commences (approximately [139.5] ha);
 - (b) Approximately 40.4 ha of mature wattle forest on WMNZ land that is not within the project footprint;
 - (c) Approximately [63.25] ha of restoration planting (wetland, wetland margin and terrestrial) on WNMZ land proposed as part of the Effects Management Package;
 - (d) Approximately [13.55] ha of riparian planting that will occur on WMNZ land;
 - (e) Approximately [89] ha of plantation pine forestry in WMNZ landholdings;
 - (f) Sunnybrook Scenic Reserve (154.5 ha); and
 - (g) Dome Forest Stewardship Area (401 ha) – rat control only.

The areal extent of pest control operations within Sunnybrook Reserve and Dome Forest Stewardship Area is to be confirmed following consultation with the Department of Conservation.

105. Rat control within the Dome Forest shall commence one month prior to initial construction works commencing. Rat control shall be undertaken in accordance with the EPAMP for the duration of the construction and operation of the landfill (i.e. placement of waste). The areal extent of rat control operations within Dome Forest is to be confirmed following consultation with the Department of Conservation.
106. The following rat control targets (i.e. the objective to be aimed for) within the Dome Forest apply. Rats will be maintained at or below a 5% Rat Tracking Index (RTI) every

year with target monitoring to occur at the start of bird breeding season and as set out in C.A Gillies and D Williams 'DOC tracking tunnel guide v2.5.2: Using tracking tunnels to monitor rodents and mustelids' dated 2013.

If the above target densities are exceeded in any two consecutive years, the Consent Holder shall consult with DOC and provide a report to Council for certification, identifying any amendment to the methods and effort levels that reasonably would improve the likelihood of achieving the target densities. These amendments shall be subsequently implemented.

107. The following pest control targets (i.e. the objective to be aimed for) within the WMNZ landholding and Sunnybrook Reserve apply:
- (a) Rats will be maintained at or below a 5% Rat Tracking Index (RTI) every year with target monitoring to occur at the start of bird breeding season and as set out in C.A Gillies and D Williams 'DOC tracking tunnel guide v2.5.2: Using tracking tunnels to monitor rodents and mustelids' dated 2013;
 - (b) Possums will be maintained at or below a 5% Residual Trap Catch (RTC) or equivalent target following the National Pest Control Agencies' 'A1 Possum Population Monitoring Using the Trap-Catch, Waxtag and Chewcard Methods' dated April 2020;
 - (c) Mustelids and feral cats will be maintained to low detection levels every year; and
 - (d) Feral pigs, goats and deer will be controlled to zero density.

If the above target densities are exceeded in any two consecutive years, the methods and effort levels in the EPAMP shall be reviewed.

108. Pest density performance monitoring shall be undertaken on the following basis:
- (a) Twice per year for rats during the months of September and March/April;
 - (b) Once yearly for possums during September;
 - (c) Once yearly for mustelids during September; and
 - (d) Deer, goats and pigs shall be monitored (by observation of animals or evidence of fresh sign) by those undertaking rat, possum and mustelid monitoring.
109. The monitoring methodologies applied will align with recognised best practice and all monitoring will be undertaken by personnel certified by the National Pest Control Agencies (NPCA) as trained monitoring personnel, and in accordance with the NPCA Standard National Protocol.
110. All monitoring data, including trap catch and bait consumption information, will be made available to the Council within three months of each monitoring survey.

Biodiversity offset and compensation outcome monitoring

111. A programme of monitoring, reporting and revision (as necessary) must be implemented in respect of the measures set out in Table 4:

Table 4: Biodiversity attributes that will be quantified at impact and habitat restoration / enhancement sites as part of the ecological monitoring programme

Forest vegetation/habitat biodiversity features
Canopy cover (percentage) (Monitoring plot average)
Canopy height (m)/ (Monitoring plot average)
Basal Area (m ²)/ ha (Monitoring plot average)
Indigenous species richness (Monitoring plot average count)
Understory % cover (Monitoring plot average count)
Fruiting trees (Count per unit area) (Monitoring plot average count)
Epiphyte/Vine (presence/absence per unit area)
Kahikatea (Diameter at Breast Height, DBH) (Monitoring plot average)
Karaka (DBH) (Monitoring plot average)
Kohekohe (DBH) (Monitoring plot average)
Matai (DBH) (Monitoring plot average)
Miro (DBH) (Monitoring plot average)
Pukatea (DBH) (Monitoring plot average)
Puriri (DBH) (Monitoring plot average)
Rewarewa (DBH) (Monitoring plot average)
Tawa (DBH) (Monitoring plot average)
Titoki (DBH) (Monitoring plot average)
Totara (DBH) (Monitoring plot average)
Tui (Conspicuousness) (Monitoring plot average)
Bellbird (Conspicuousness) (Monitoring plot average)
Forest fauna biodiversity features
Long-tailed bats (Occupancy (presence/absence) at ABM locations)
Tui (5 minute bird counts at vegetation monitoring plots)
Wetland vegetation biodiversity features
Canopy cover (%) (Monitoring plot average)
Canopy height (m) (Monitoring plot average)
Basal Area (m ²) (Monitoring plot average)
Indigenous species richness (count per unit area) (Monitoring plot average)
Understory % cover (percentage) (Monitoring plot average)
% complex habitat for wetland birds (for each wetland)

Wetland fauna biodiversity features
Spotless crane (conspicuousness) (Bird count stations)
North Island fernbird (conspicuousness) (Bird count stations)
Hochstetter's frog attributes
Relative abundance (frog counts per 20 m transect)

112. Monitoring reports shall be submitted to Council:
- (a) One month prior to initial construction commencement;
 - (b) One year following completion of construction;
 - (c) Five years following completion of construction;
 - (d) Ten years following completion of construction; and
 - (e) Twenty-five years following completion of construction.
113. The reports required by Condition 112 must:
- (a) Demonstrate progress in respect of the biodiversity values as per Table 4;
 - (b) Provide details on progress towards net gain outcomes for terrestrial and wetland ecology;
 - (c) Provide information on any incidents that have had a material impact on that progress, as well as any measures that have been adopted or are proposed to be adopted to improve progress towards the canopy closure target; and
 - (d) Provide results of monitoring required by condition 112.
114. If 80% canopy closure standard is not achieved after the fifth year, further monitoring reports must be provided every two (2) years thereafter until the standards are met.
115. Ten (10) years after completion of construction, a report must be prepared by a suitably qualified ecologist, and submitted to Council to confirm whether net gain outcomes for terrestrial and wetland ecology have been demonstrably achieved and/or are expected to be achieved in the timeframe specified with reference to the Biodiversity Offset Accounting Model (BOAM) and Biodiversity Compensation Model (BCM) decision support tools and Model Parameters Attributes included in Table 4, by the BOAM or to and set out any additional measures that must be implemented to achieve a net gain.
116. If the report required by Condition 115 does not confirm that net gain outcomes for terrestrial and wetland ecology are achieved, or expected to be achieved in the timeframe specified by the BOAM, the relevant sections of the ELVEMP must be amended and certified to set out any additional measures that are required to be

implemented to demonstrate a net gain outcome for terrestrial and wetland ecology within thirty-five (35) years.

117. Twenty-five (25) years after completion of construction, a report must be prepared by a suitably qualified ecologist, in consultation with the Department of Conservation, and submitted to Council to confirm whether net gain outcomes for terrestrial and wetland ecology have been demonstrably achieved and/or are expected to be achieved in the timeframe specified with reference to the Biodiversity Offset Accounting Model (BOAM) and Biodiversity Compensation Model (BCM) decision support tools and Model Parameters, Attributes included in Table 4 for those parameters projected to achieve a net indigenous biological diversity gain within thirty-five (35) years by the BOAM.
118. If the report required by Condition 117 does not confirm that net gain outcomes for terrestrial and wetland ecology are achieved, or expected to be achieved in the timeframe specified by the BOAM, the relevant sections of the ELVEMP must be amended and certified to set out any additional measures that are required to be implemented to demonstrate a net gain outcome for those parameters projected to achieve a net indigenous biological diversity gain within thirty-five (35) years.

Hochstetter's frog contingency measures

119. The Consent Holder shall undertake annual monitoring of frog abundance in areas of pest control and enhancement planting and submit the results to Council within four weeks of completion. If a mean 10% increase in relative abundance of frogs is not achieved within 10 years within proposed pest control sites; and / or the colonisation of suitable revegetated stream habitats is not achieved within 35 years, the Consent Holder shall develop contingency measures. The measures shall be developed in consultation with Council and the Department of Conservation Amphibian Technical Advisory Group. Measures may include:
 - (a) The addition of a mouse control programme, including monitoring to quantify benefits coupled with applied research to provide evidence to the extent that mouse predate on frogs (based on frog DNA analysis within mouse stomachs);
or
 - (b) Extension of duration of pest control efforts beyond the 35 years; or
 - (c) Protection in perpetuity of exotic forestry riparian margins surrounding identified Hochstetter's frog hotspots (stream cascade complexes) within the consent holder's landholdings.

Stream Offset Works Plan

120. A Stream Offset Works Plan (SOWP) shall be submitted to Council for certification at least six months prior to the initial Construction Commencement Date, and annually thereafter. The objective of this plan is to describe the principles by which the Consent Holder shall provide offset in the following 12 month period to achieve no net loss in ecological function for residual adverse effects related to stream habitat loss

associated with the project. The SOWP shall set out methodologies and processes that will be used to achieve no net loss in accordance with the *Stream Ecological Valuation (SEV): a method for assessing the ecological functions of Auckland streams (2011)* for stream length affected within Valley 1. The SOWP provisions for stream restoration shall include the following:

- (a) Overarching principles for the identification of restoration sites;
 - (b) Restoration sites shall be identified within the Te Awa o Hōteu catchment. In the event that sufficient sites cannot be identified within that catchment, sites will be identified within the Kaipara Moana catchment as a first priority, and then within the Auckland Region;
 - (c) Process for the consent holder informing landowners within the Hōteu Catchment, including criteria for selection and process for consultation with MWR and CLG to provide suggestions on restoration sites;
 - (d) The ecological values being achieved through the offset are the same or similar to those being lost;
 - (e) Overarching principles for the selection of sites, so that to the extent practicable, the enhancement provides for ecological benefits beyond the reach scale measured by the SEV method;
 - (f) Provisions to legally protect restored areas e.g. covenants; and
 - (g) Reporting requirements.
121. The Consent Holder must provide a Stream Offset Works Report (SOWR) to Council for certification. This SOWR will be provided with every SOWP provided for certification after the initial Construction Commencement Date. The SOWR will:
- (a) Confirm what offset measures have been implemented in the previous year's SOWP;
 - (b) Describe the proposed offset to occur within the next planting season, including identification of offset site(s) for that next planting season;
 - (c) Describe the proposed enhancement (eg riparian planting, stream habitat creation, in-stream habitat enhancement, fencing and stream protection) for the offset sites, the purpose of which is to enhance the offset sites' condition;
 - (d) Provide the SEV and ECR calculations to demonstrate that no net loss of ecological function will be achieved through the proposed enhancement measures;
 - (e) Provide a site-specific assessment of the risk of stream bank erosion and the likely successful establishment of proposed riparian planting;

- (f) Include details pertaining to the monitoring and maintenance plan for a period of five (5) years to ensure plant densities and 90% survival rate are maintained. Any plants that die should be replaced the following planting season. Replacement planting and planting maintenance shall continue beyond year 5 until 90% survival and canopy closure is achieved. The 5 year period shall commence once all the works describe within a SOWP have been completed; and
 - (g) Provide details regarding how offset sites shall be protected in perpetuity (where practicable) by land covenant or consent notice(s) or similar, placed on the subject area of the land's title and provide evidence that this protection is sufficient for the purpose of this consent.
122. The Consent Holder shall have completed the stream offset works within fifteen (15) years following commencement of consent for all stream enhancement works outside of the WMNZ landholdings, with no less than 2 kilometres per year to be completed (until such time as a no net loss outcome can be demonstrated).
123. Prior to the Landfill Commencement date, the Consent Holder shall have completed, or be able to provide confirmation that there is land available to complete, 25 km of offsite offset stream planting.

PART D - INITIAL SITE CONSTRUCTION WORKS

Advice Note: These conditions apply to the site establishment and initial enabling works, as defined and described in the Assessment of Environmental Effects prepared by Tonkin + Taylor (May 2019), and includes all work required to be undertaken in order to prepare the landfill to accept waste. Once the landfill becomes operational, these conditions will no longer apply.

124. The Consent Holder shall notify Council of the Construction Commencement Date at least 30 working days prior to the Initial Construction Commencement Date.

Construction Erosion and Sediment Control Plan

125. At least three months prior to the Construction Commencement Date, the Consent Holder shall submit to Auckland Council for certification, an updated Construction Erosion and Sediment Control Plan (CESCP) for the Initial Site Construction Works, prepared in general accordance with the 'Construction Erosion and Sediment Control Plan' included in the Landfill Management Plan dated November 2020. The objective of the CESCP is to provide a framework of controls for the construction earthworks to avoid, remedy and/or mitigate the potential adverse effects on the receiving environment, including measures to ensure sediment generation is minimised and the works are conducted in accordance with best practice.

Site Specific Erosion and Sediment Control Plans

126. Prior to the Commencement of earthworks for each stage of the initial construction works, a Site Specific Erosion and Sediment Control Plan (SSESCP) shall be prepared by a suitably qualified person in general accordance with Auckland Council Guideline GD05, Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region, the CESCP and the Erosion and Sediment Control Adaptive Monitoring Plan (Condition 145).
127. The Consent Holder shall submit the SSESCP to Council at least 1 month prior to the commencement of that each stage of works. The purpose of the SSESCP is to set out the specific measures to be implemented during construction to minimise erosion and the discharge of sediment beyond the boundaries of the site to receiving water bodies.
128. The SSESCP shall include the following information as appropriate to the scale, location and type of earthworks:
- (a) The location and total area of earthworks, including catchment boundaries and contour information;
 - (b) Details of construction methods to be employed, including timing and duration;
 - (c) The volume of earthworks. This is to include details of the volumes to be excavated, stockpiled, re-used and disposed of off-site;

- (d) The location of erosion controls of the types described in GD05 (e.g. perimeter control such as a clean water diversion bunds) and any other controls;
 - (e) The location of sediment controls of the types described in GD05 (e.g. silt fence along low point of site where surface water will discharge from site or around stockpile areas) and any other controls;
 - (f) Supporting calculations for erosion and sediment controls including updated Universal Soil Loss Equation (USLE) calculations and estimated sediment loads;
 - (g) Staging of the earthworks, including details of progressive stabilisation of exposed areas for each stage;
 - (h) Key responsibilities for implementing and maintaining the controls detailed in the SSESCP during the project;
 - (i) The location of site entrance points and means to control tracking of dirt off-site;
 - (j) The frequency and responsibility for monitoring the effectiveness of controls, downstream water quality, and the undertaking of any maintenance on controls;
 - (k) The details for decommissioning controls;
 - (l) Contingency plans in case of unexpected sediment discharges during works and to respond to extreme weather events;
 - (m) Detail of the location of erosion and sediment controls in relation to flood plains and how flood risk will be managed;
 - (n) Specific detail of how erosion and sediment controls will avoid adverse effects to vegetation where earthworks are located adjacent to and within the rootzone of SEA vegetation;
 - (o) Specific detail of how the outlets from erosion and sediment control devices will avoid adverse effects on in-stream bank erosion; and
 - (p) Drawings showing items a, c, d, e, i, m and n above.
129. Where potentially suitable habitat occurs downstream of a proposed erosion and sediment control device, an initial baseline survey for the presence of kakahi shall be undertaken. The results of this survey and a description of how the results have been accounted for in the design and location of the erosion and sediment control device(s), with the objective of avoiding or minimising adverse effects of sediment on kakahi habitats, shall be provided to Council as a sub-section of the relevant SSESCP

Erosion and sediment controls certification and maintenance

130. Prior to any earthworks commencing within a works area for each specific stage, a certificate signed by an appropriately qualified and experienced person shall be submitted to Council, to certify that the erosion and sediment controls have been

constructed in accordance with the certified SSESCP required by Condition 126. Certified controls shall include but not be limited to the sediment retention ponds, decanting earth bunds, clean and dirty water diversion bunds, stabilised construction entrances, silt fencing and super silt fencing. Information supplied if applicable, shall include:

- (a) Contributing catchment area;
 - (b) Shape and capacity of structure (dimensions of structure);
 - (c) Position of inlets/outlets;
 - (d) Stabilisation of the structure; and
 - (e) A statement that the erosion and sediment control measures have been constructed in accordance with Auckland Council Guideline GD05; except where a higher standard is detailed in the documents referred to the CЕСCP and / or SSESCP required by Conditions 125 and 126, in which case the statement shall confirm that the higher standard has been constructed.
131. The sediment and erosion controls for each stage of the initial construction works shall be inspected on a regular basis, and within 24 hours after each rainstorm event that is likely to impair the function or performance of the control measure. A record shall be maintained of the date, time and extent of any inspection, maintenance and repair undertaken in association with this condition which shall be forward to Council on request.
132. Throughout the duration of the initial site construction works, the works shall be staged in a manner to meet the following criteria:
- (a) The maximum area of earth exposed at any one time, must be no greater than:
 - (i) 11.5 hectares during years 1 and 2;
 - (ii) 6.7 hectares during year 3; and
 - (iii) 9.7 hectares during year 4 or any longer period that may be required to complete the Initial Site Construction Works.
 - (b) The site shall be progressively stabilised against erosion at all stages of the earthworks activity and shall be sequenced to minimise the discharge of sediment to surface water.

Advice Note: Earthworks shall be progressively stabilised against erosion during all stages of the earthwork activity. Interim stabilisation measures may include:

- (a) *The use of waterproof covers, geotextiles, or mulching;*
- (b) *Top-soiling and grassing of otherwise bare areas of earth; or*

- (c) *Aggregate or vegetative cover that has obtained a density of more than 80% of a normal pasture sward.*

It is recommended that you discuss any potential measures with the Council's monitoring officer who may be able to provide further guidance on the most appropriate approach to take. Please contact the Council for more details. Alternatively, please refer to Auckland Council Guidance Document GD05, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region.

133. The applicant may apply to Council to increase the exposed area limits in condition 132 above, on preparation of the final SSESPs, or on analysis of the results of ongoing monitoring of erosion and sediment controls and the receiving environment required by the Erosion Sediment Control Adaptive Management Plan (ESCAMP) (referred to in condition 145). No increase in maximum exposed area shall be undertaken without the prior written approval of Council.

Advice Note: This condition is intended to provide some flexibility to the consent holder to ensure final earthworks methodologies and plans can be implemented, however, it is not expected that significant increases to exposed area would be approved and the consent holder should limit exposed area to the extent practicable to reduce adverse effects on the receiving environment.

134. Earthworks undertaken during the initial site construction works shall be managed to avoid deposition of earth, mud, dirt or other debris on any road or footpath resulting from earthworks activity on the subject site. In the event that such deposition does occur, it shall immediately be removed. In no instance shall roads or footpaths be washed down with water without appropriate erosion and sediment control measures in place to prevent contamination of the stormwater drainage system, watercourses or receiving waters.

Advice Note: In order to prevent sediment laden water entering waterways from the road, the following methods may be adopted to prevent or address discharges should they occur:

- (a) *Provision of a stabilised entry and exit(s) point for vehicles;*
 - (b) *Provision of wheel wash facilities;*
 - (c) *Ceasing of vehicle movement until materials are removed;*
 - (d) *Cleaning of road surfaces using street-sweepers;*
 - (e) *Silt and sediment traps; and*
 - (f) *Catchpit protection.*
135. The operational effectiveness and efficiency of all erosion and sediment control measures required by the SSESCPs provided in accordance with Condition 126, shall

be maintained throughout the duration of any land disturbing activities associated with those activities, or until the site is permanently stabilised against erosion.

136. Erosion and sediment control measures for the initial site construction works shall be constructed and maintained in general accordance with Auckland Council Guidance Document GD05; Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region and any amendments to this document, except where a higher standard is detailed in the documents referred to in the consent conditions, in which case the higher standard shall apply.
137. Upon completion or abandonment of the initial site construction works on the subject site, all areas of bare earth shall be permanently stabilised against erosion to the satisfaction of the Council.

Advice Note: Should the earthworks be completed or abandoned, bare areas of earth shall be permanently stabilised against erosion. Measures may include:

- (a) *The use of mulching;*
- (b) *Top-soiling, grassing and mulching of otherwise bare areas of earth; or*
- (c) *Aggregate or vegetative cover that has obtained a density of more than 80% of a normal pasture sward.*

The on-going monitoring of these measures is the responsibility of the consent holder. It is recommended that you discuss any potential measures with the Council's monitoring officer who will guide you on the most appropriate approach to take. Please contact the Council for more details. Alternatively, please refer to Auckland Council Guidance Document GD05, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region.

Seasonal Restriction

138. No earthworks associated with the Initial Site Construction Works shall be undertaken between 01 May and 30 September in any year, without the prior written approval of Council. Revegetation/ stabilisation is to be completed by 30 April in accordance with measures detailed in GD05 and any amendments to this document.

Winter Earthworks shall only be considered for approval by the Council in any of the following scenarios:

- (a) Completion of a specific earthworks area is required to prevent a specific risk or hazard which may result in sediment discharge, or harm to people or the environment if left un-completed;
- (b) Where irregular climate conditions allow for earthworks to be completed throughout prolonged periods of dry weather; or
- (c) Where an area of less than 2,500m² is proposed to be worked at any one time.

Construction Earthworks Design and Oversight

139. The investigation, final design, specification and construction of landfill and appurtenant structure earthworks shall be carried out or reviewed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist.
140. A detailed construction methodology shall be prepared and included in the CEMP as required by Condition 66 to ensure that the proposed earthworks are staged and carried out in a manner that will not contribute to slope instability, and to ensure that subsoil drainage is provided where appropriate.
141. Cut slopes shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist for the presence of adverse geological conditions including landslide deposits, geological faults and the groundwater seepage. A signed and dated record of each assessment shall be kept including a pictorial representation of the slope showing all relevant geotechnical and geological features, all unanticipated conditions, and including notes describing any recommended mitigation measures. This record shall be incorporated in the completion report (as required by Condition 144).
142. Prior to placement of the first layer of structural fill at each location the subgrade shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist for the presence of adverse geological conditions including landslide deposits, geological faults and groundwater seepage. A signed and dated record of each assessment shall be kept including a pictorial representation of the slope showing all relevant geotechnical and geological features, all unanticipated conditions, and including notes describing any recommended mitigation measures. This record shall be incorporated in the completion report (as required by Condition 144).
143. Structural fill shall be placed and tested in accordance with the requirements of the CEMP. The fill placement records and fill testing records shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist. A signed and dated record of each assessment shall be kept, including details of any non-conformances identified along with the remedial actions taken. This record shall be incorporated in the completion report (as required by Condition 144).
144. On satisfactory completion of earthworks, the consent holder shall submit a completion report and appropriate stability and suitability statements prepared by a Chartered Professional Engineer practicing in geotechnical engineering or Engineering New Zealand registered Professional Engineering Geologist.

Erosion and Sediment Control Adaptive Management Regime

145. At least three months prior to commencement of the Initial Site Construction Works, the Consent Holder shall prepare and submit to Council for certification, an Erosion

and Sediment Control Adaptive Management Plan (ESCAMP) for all earthworks which are to be undertaken throughout the full duration of consent including the initial site construction works and landfill operation. The ESCAMP shall address monitoring requirements and changes to management procedures in response to the results of monitoring, and shall include but is not limited to, the following details:

- (a) Pre-construction baseline monitoring data of the receiving environment, including but not limited to:
 - (i) In-stream results for turbidity and/or total suspended solids (TSS) over a range of weather conditions/seasons; and
 - (ii) description of sediment inputs, transport, substrate composition and embeddedness.
- (b) Weather forecasting and monitoring, including implementation of an onsite weather station with a telemetered system that provides txt and email notifications;
- (c) Trigger levels for water quality, rainfall (actual and forecasted events), and population decline;
- (d) Ongoing monitoring and sampling regime for the receiving environment, including turbidity and TSS monitoring downstream of works within the Tributary of the Waiteraire Stream;
- (e) Ongoing monitoring and sampling regime for sediment retention devices including the incorporation of automated samplers and sampling at the inlet and outlet of devices;
- (f) Management responses when a trigger level is exceeded, including the ability to reduce exposed area; and
- (g) Reporting to Council.

No earthworks shall commence until certification has been received from the Council.

Advice Note: Turbidity results can be substituted providing a correlation between TSS and turbidity has been established. This correlation should be re-assessed every year due to changes in soil conditions.

- 146. All earthworks must be undertaken in accordance with the ESCAMP (as referred to in Condition 145) and any subsequent revisions of the adaptive management plan certified by Council.
- 147. Any proposed revisions to the ESCAMP must be submitted to the Council for written certification prior to formalising and implementing the revised ESCAMP.
- 148. An earthworks area that has been stabilised or reduced (through stabilisation) as a result of a trigger level exceedance as defined by and required by the ESCAMP

(referenced in Condition 145 and any subsequent versions approved by the Council) may only be re-opened or increased on the written approval of the Council.

149. Council may request changes to the ESCAMP as a result of observed inefficiencies on site or identified within the site reporting, in order to address those inefficiencies. If such a request is made by the Council, the revised ESCAMP must be submitted to the Council within 5 working days of the request for written approval prior to implementation.

Advice Note: The ESCAMP is a live document and updates are expected to address unforeseen circumstances or changes in the earthworks methodology as the site responds through its adaptive monitoring regime to ensure sediment discharges are minimised and the potential for significant adverse effects are avoided.

150. Upon request by the Council, the consent holder must make available any monitoring results and data recorded in accordance with the ESCAMP.

Advice Note: A report containing sampling and monitoring results may be requested by Council. This report is expected to contain the following details:

- (a) *The results of all monitoring within that period;*
- (b) *A summary of receiving environment effects, including any ecological changes and subsequent ecological response; and*
- (c) *A summary of any event trigger levels exceedance that occurred and any subsequent change of the AMP.*

Construction Chemical Treatment Management Plan

151. Prior to the commencement of any earthworks at the site, a Construction Chemical Treatment Management Plan (CCTMP) shall be submitted to Council for certification that details how all impoundment devices utilised throughout the Initial Site Construction Works will be treated. The plan shall include as a minimum:

- (a) Specific design details of the chemical treatment system based on a rainfall activated methodology for the site's sediment retention ponds and decanting earth bunds;
- (b) Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
- (c) Bench testing results;
- (d) Details of optimum dosage (including assumptions);
- (e) Results of initial chemical treatment trial;
- (f) A spill contingency plan; and

- (g) Details of the person or bodies that will hold responsibility for operation and maintenance of the chemical treatment system and the organisational structure which will support this system.
152. No earthworks for each stage of the Initial Site Construction Works shall commence until written certification for the CESSCP, CCTMP and relevant SCESSCP has been provided from Council as required by conditions 125, 151 and 126 respectively.
153. All decanting earth bunds, sediment retention ponds and any other authorised impoundment devices, shall be chemically treated in accordance with the approved Construction Chemical Treatment Management Plan (CCTMP) unless otherwise approved by Council. Any amendments to the CCTMP or approvals to not chemical treat where not practicable shall be submitted in writing to Council, for written certification prior to implementation.

Erosion and Sediment Control – Pre-Start meeting

154. Prior to the commencement of the Initial Site Construction Works, the Consent Holder shall hold a pre-start meeting for the earthworks activity that:
- (a) Is located on the subject site;
 - (b) Is scheduled not less than five days before the anticipated commencement of earthworks;
 - (c) Includes Council; and
 - (d) Includes representation from the contractors who will undertake the works.
155. The meeting shall discuss the erosion and sediment control measures, the streamworks and earthworks methodologies, the adaptive management regime and shall ensure all relevant parties are aware of and familiar with the necessary conditions of this consent. The following information shall be made available at the pre-start meeting:
- (a) Timeframes for key stages of the works authorised under this consent;
 - (b) Resource consent conditions;
 - (c) Construction Erosion and Sediment Control Plan;
 - (d) Site Specific Erosion and Sediment Control Plans;
 - (e) Construction Chemical Treatment Management Plan; and
 - (f) Erosion and Sediment Control Adaptive Management Plan.
156. A pre-start meeting shall be held prior to the commencement of the earthwork activity in each period between October 1 and April 30 that this consent is exercised.

Advice Note: To arrange the pre-start meeting please contact the Council to arrange this meeting on monitoring@aucklandcouncil.govt.nz, or 09 301 01 01. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

Finalised State Highway 1 intersection design

157. The access road intersection and roundabout shall be designed in accordance with the 'Integrated Traffic Assessment', prepared by Stantec, dated May 2019 as amended by subsequent section 92 responses, to the relevant standards as set out in NZ Transport Agency's Register of Network Standards and Guidelines ISBN 978-0-478-38032, and the design shall be subject to detailed design road safety audit in accordance with NZTA procedures.
158. The roundabout shall be subject to, and satisfy, NZTA road safety requirements, and shall be operational prior to the Landfill Commencement Date.

Construction Traffic

159. Subject to condition 160, vehicles using Crowther Road for access to the site during Initial Site Construction Works may only enter Crowther Road from State Highway 1 via a left-turn from the north and may only exit via a left-turn to the south.
160. Right turns in and out of Crowther Road for vehicles accessing the site during Initial Site Construction Works will only be enabled where:
 - (a) All improvement works and / or vegetation clearance that may be identified as necessary by Waka Kotahi – NZ Transport Agency has been undertaken; and
 - (b) Waka Kotahi – NZ Transport Agency confirms in writing to Auckland Council that it is satisfied right turns in and out of Crowther Road by vehicles using Crowther Road for access to the site during Initial Site Construction Works can be safely undertaken.
161. In the period of Monday to Friday during school terms, there shall be no heavy vehicle movements associated with the construction works authorised by this consent into or out of the Crowther Road intersection during the following times:
 - (a) Thirty (30) minutes before to ten (10) minutes after the school bus pick-up time in the morning (40 minutes in total), and;
 - (b) Twenty (20) minutes before to twenty (20) minutes after the school bus drop-off in the afternoon (40 minutes in total).

Advice Note: A heavy vehicle is defined as a vehicle which has a gross vehicle mass (GVM) of more than 3500 kilograms

162. A Construction Traffic Management Plan (CTMP) shall be prepared by a suitably qualified and experienced person in accordance with the NZTA Code of Practice for Temporary Traffic Management and after consultation with NZTA, addressing all

construction and temporary works that involve access onto or across State Highway 1. The CTMP shall be in two parts being for works affecting State Highway 1 under the jurisdiction of NZTA and one being for works on public roads under the jurisdiction of Auckland Council / Auckland Transport. The objective of the CTMP is to provide a framework to be adopted by the consent holder to avoid, remedy or mitigate the adverse traffic and access effects of the construction works. The CTMP shall be submitted to Council for certification at least three months prior to the construction commencement date.

163. The CTMP shall include the following details:

- (a) The Traffic Management Co-ordinator for the preliminary site earthworks and construction works phase;
- (b) The proposed construction programme identifying the sequence and timing of construction phases;
- (c) The traffic generating activities and vehicle types expected during the construction programme;
- (d) Material/equipment source locations;
- (e) Construction transport routes;
- (f) Anticipated daily and peak hour traffic volumes for each construction phase;
- (g) Driver and other contractor staff induction requirements and processes;
- (h) Construction site access and parking arrangements;
- (i) Details of specific Temporary Traffic Management Plans (TTMP) to be employed for each construction phase or stage of construction or those associated with specific pieces of larger or unique equipment moved to and from the Project site;
- (j) A communication plan for notifying residents of the local area and other members of the community who may be potentially affected by construction traffic of the nature, timing and duration of the different construction phases of the construction works, including noise mitigation options and their implementation;
- (k) A complaints procedure for community members to report construction traffic issues; and
- (l) A process for review and monitoring of the CTMP.

164. The CTMP shall also include consideration of:

- (a) Minimisation of the safety impacts and effects of construction activities on users of the SH 1 and public roads;

- (b) Means by which the total number of truck movements to and from the construction activities could be minimised (e.g. back loading of departing vehicles);
- (c) Means by which the movement of large machinery/items can be undertaken at times and in a manner which minimises effects on State Highway 1 users;
- (d) Timing and sequencing of any road closures that will be required and the nature and duration of any traffic management measures that will result, including any temporary restrictions, detours or diversions;
- (e) Measures to minimise potential effects on other State Highway 1 and public road users and surrounding residents
specific management for property access during periods of traffic disruption;
- (f) Identification of public holidays and on the day immediately prior to public holiday weekends periods where movements of large trucks (longer than 10 m) shall be restricted;
- (g) Provision for a Site Traffic Management Supervisor (STMS) when required; and
- (h) Measures to be employed on-site which seek to minimise the effect of construction related vehicles on the adjoining transport network such as:
 - (i) Variable start and end times for contractor staff;
 - (ii) Shared transport arrangements for contractor staff; and
 - (iii) Back-loading of earthmoving transporters.

Advice Note: If the NZTA Dome Valley Safety Improvements project is still underway at the time of works commencing under this consent, the CTMP shall include measures to co-ordinate and operate alongside the Safety Improvements project.

Construction lighting

- 165. Signage shall be installed within the site requiring that when vehicle headlights are used, they shall be dipped (low beam) at all times.
- 166. Exterior lighting on buildings, structures and temporary lighting platforms (i.e. all exterior lighting other than vehicle mounted luminaires) shall be installed with zero upward tilt and produce no more than 1% direct upward light.

Construction noise

- 167. Noise from construction work undertaken on the site shall comply with the requirements of Standard E25.6.27 of the AUP. Construction noise shall be assessed in accordance with E25.6.1.

168. A Construction Noise and Vibration Management Plan (CNVMP) shall be prepared by a suitably qualified person and submitted to Auckland Council for certification at least three months prior to the initial construction commencement date. The objective of the CNVMP is to identify and clearly set out the Best Practicable Option for minimising the noise effects arising from the work and to ensure that the noise limits set by Condition 167 are complied with at all times.
169. The CNVMP shall address all aspects of the construction of the landfill and all associated infrastructure, roading, drainage, buildings, earthworks and structures necessary to complete the substantive construction phase prior to any refuse being accepted.
170. The CNVMP must be implemented throughout the initial construction works and expanded and updated as necessary, where there are changes to the work methodology or any other aspect that requires noise management but has not been addressed adequately.
171. The CNVMP shall include as a minimum the relevant measures from Appendix E of NZS 6803:1999 "Acoustics – Construction Noise". The CNVMP shall also include the following controls:
- (a) No heavy vehicles associated with the landfill construction shall access the site via the Crowther Road access prior to 0730 hrs;
 - (b) No construction materials or earthmoving plant delivered to the site via the Crowther Road access prior to 0730 hrs;
 - (c) No construction or maintenance works on Crowther Road prior to 0730 hrs within 150 m of a residential dwelling;
 - (d) The CNVMP must set out the methods and procedures for monitoring and reporting on the noise emissions generated by the construction of the roundabout and upgrade of Crowther Road. The CNVMP shall record that the objective of this monitoring is to clearly demonstrate to the Council that the noise generated by those works will be managed and monitored to ensure that it is consistently compliant with the noise limits set out in Condition 167, to a high degree of certainty; and
 - (e) The CNVMP must set out the methods and procedures for the design, firing and monitoring of any blasting undertaken on the site. The CNVMP shall record that the objective of this section shall be to ensure that the air overpressure and vibration arising from any blasting is carefully designed to ensure compliance with the relevant standards in E25, and that monitoring of the noise and vibration of all blasts is conducted to demonstrate to the Council that compliance was achieved.

Dust

172. Discharges of dust from the Initial Site Construction Works shall not cause offensive or objectionable effects at any location beyond the boundary of the Site, in the opinion of a suitably qualified and experienced enforcement officer when assessed in accordance with the *Good Practice Guide for Assessing and Managing Dust* (Ministry for the Environment, 2016). The Consent Holder shall ensure that dust management at the Site generally complies with the recommendations of this Good Practice Guide and minimises dust generation as far as practicable. This shall include having sufficient water to dampen exposed soil and unsealed areas, and/or other dust suppressing measures detailed by the CEMP (Condition 66), available as necessary.

Culvert design

173. Where practicable, fish passage shall be provided through culverts in intermittent and permanent streams unless deemed unnecessary or impracticable by a suitably qualified freshwater ecologist, who has assessed the fish passage requirements in accordance with New Zealand Fish Passage Guidelines for structures up to 4 metres (NIWA, 2018). Where fish passage is deemed unnecessary or impractical, appropriate data and rationale for this decision shall be provided with the design drawings to Council for certification. This requirement does not apply to culverts entering or discharging from Ponds 1 to 5.
174. Culvert design for culverts within intermittent and permanent streams shall:
- (a) Be designed to accommodate the 1 per cent annual exceedance probability flood without materially increasing flood levels upstream or downstream of the structure;
 - (b) Fish passage elements shall be informed by the 'New Zealand Fish Passage Guidelines for structures up to 4 metres' (NIWA, 2018); and
 - (c) Incorporate energy dissipation and erosion control to minimise the occurrence of bed scour and bank erosion in receiving environments.

Advice Note: Conditions 173 and 174 do not discharge the consent holders' responsibilities under any other Act.

Fish Passage

175. Within one (1) year of Initial Construction Works being completed, the existing identified fish passage barriers, shown on Figure 3 of the Assessment of Aquatic and Terrestrial: Ecological Values and Effects. Prepared by Tonkin & Taylor Ltd. Dated 30 May 2019, shall be remediated to provide fish passage unless deemed unnecessary or impractical by a suitably qualified freshwater ecologist, who has assessed the fish passage requirements in general accordance with New Zealand Fish Passage Guidelines for structures up to 4 metres (NIWA, 2018). Where fish passage is deemed unnecessary or impractical, appropriate data and rationale for this decision shall be

provided to Council for certification. Remediation design shall be informed by the 'New Zealand Fish Passage Guidelines for structures up to 4 metres' (NIWA, 2018).

176. The consent holder shall notify Council of the completion of the remediation actions within 20 working days of completion.

Kauri Dieback controls

177. Where works occur within a "kauri contamination zone" (defined as 3 x the radius of the canopy dripline of any kauri tree), all vegetation, soil, and other material from that zone must remain within the zone or be disposed of within a landfill.
178. All footwear, clothing, tools, vehicles and equipment used on site within a kauri contamination zone must be cleaned of all soil, vegetation, or other material that has, or may have, come from a "kauri contamination zone" must be thoroughly washed with Sterigene (or other suitable agent) on entry and exit from the site, on every occasion, to avoid the spread of kauri dieback (*Phytophthora agathidicida*).
179. The Stockpile 1 and clay borrow access road shall be no closer than 10m from the trunk of any kauri tree.

Stormwater Pond Dams – Construction Quality Procedures

180. Construction Quality Procedures shall be in place prior to and throughout the construction of the stormwater pond dams to ensure the dams are constructed in accordance with the design and specifications. Construction quality control will be undertaken in general accordance with recommendations in Module 4 of the New Zealand Dam Safety Guidelines, 2015 (DSG), published by the New Zealand Society on Large Dams (NZSOLD) or as otherwise required by any building consent. All the testing and inspection records of dam construction shall be collected together at the time of completion and included in a dam construction completion report. Each dam construction completion report shall be made available to Council on request.

Advice Note: Condition 180 applies to permanent dams for Ponds 2, 3 and 4 constructed during the initial construction; the temporary dam for Pond 1 constructed during the initial construction; and the temporary dam for Pond 5 constructed as scheduled during the landfill operations period.

Dam Safety Management Plan

181. A Dam Safety Management Plan (DSMP) shall be submitted to Council for certification at least three months prior to waste being accepted at the site. The DSMP shall be implemented and be in place for the duration of the consent.

Advice Note: If the dams are not decommissioned then new consents might be required in future for their continued operation.

182. The DSMP shall include procedures relating to governance, roles and responsibilities, operations, maintenance, surveillance, and emergency management to ensure that ongoing dam safety is managed in accordance with accepted practice.

183. The DSMP shall be designed to ensure the dam is well maintained, carefully monitored for any signs of distress, and that emergency management systems are in place to minimise the risk associated with any dam safety incident.
184. The DSMP shall be developed for the three dams and include the elements recommended in Table 1 of Module 5 of the DSG. These are:
- (a) Governance and responsibilities;
 - (b) Dam and reservoir operation, maintenance and surveillance. This includes appurtenant structures, such as valves and spillways, and includes regular intermediate and comprehensive dam safety reviews and special inspections following unusual events;
 - (c) Emergency preparedness;
 - (d) Identifying and managing dam safety issues; and
 - (e) Audits and reviews of the dam safety management system.

Advice Note: These conditions shall apply to both the construction and operational phases of the landfill.

PART E - LANDFILL OPERATIONS

185. The Consent Holder shall notify Council of the Landfill Commencement Date at least 30 working days prior to the Landfill Commencement Date.

Hours of operation

186. Except as otherwise provided for the Landfill Management Plan, the hours of operation shall be:
- (a) 5.00am to 10.00pm for the working face on all days. Operation of the working face includes all tipping operations and daily opening and closing works that involve the use of landfill machinery, including machinery used to remove or place daily cover, but does not include the bin exchange area;
 - (b) 24 hours a day, 7 days a week for the bin exchange area;
 - (c) 7.00am to 8.00pm Monday to Saturday for stockpiles and borrow areas outside of the landfill valley, with the exception of Stockpile 1 and the clay borrow area, where between September to December works are to occur from one hour after sunrise to one hour before sunset Monday to Saturday. Outside of these months, the hours of operation will be 7.00am to 8.00pm Monday to Saturday;
 - (d) 6.00am to 8.00pm Monday to Sunday for seasonal construction, and up until 10pm during summer for placement of GCL and HDPE liner; and
 - (e) 24 hours a day, 7 days a week for maintenance of plant and machinery.

Site access

187. The landfill, including the bin exchange area, shall not be open to the public.
188. Entrance gates across the access road to the landfill shall be provided and closed outside the specified hours of operation.
189. There shall be no queuing of vehicles accessing the site from the main site entrance out on to State Highway 1 at any time.
190. Signage for the landfill at the entrance of the landholding shall meet the NZTA 'Signs on State Highways' Bylaw requirements and be designed and located to be as visually discrete as practicable in order to avoid visually dominating the localised landscape in the vicinity of the landfill entrance.

Refuse Placement

191. Refuse placement shall include the following measures:

- (a) The working surface of the daily refuse cell shall be kept to a practicable minimum, and shall not exceed 80 metres by 80 metres (excluding the open area of any inert material);
 - (b) Daily cover shall be removed by cutting windows through the previous layer of daily cover before refuse placement at the start of each day; and
 - (c) Stormwater diversion bunds shall be formed to prevent surface stormwater running into the current working face.
192. The final height of the surface of the landfill cap, after settlement of the waste has occurred, shall be a maximum of 205mRL.

Daily cover

193. Daily cover shall be placed over the entire working face (excluding areas of inert waste) by the end of each operating day and no refuse shall remain exposed overnight. Daily cover shall be a nominal 150 mm thickness or more of soil but may also be one of a number of non-soil alternative daily cover options of an appropriate thickness and material where it can be demonstrated that they achieve a comparable level of control with respect to air discharges, vermin, birds, litter, and visual effects. An equivalent alternative daily cover may be used only with the prior written certification of Council.
194. Any landfill area containing deposited refuse where further refuse placement is not planned to occur for a period greater than 12 weeks shall have 'thickened interim cover' applied to a minimum thickness of 300 mm (including the thickness of daily cover) as soon as practicable but no later than 12 weeks after the refuse was deposited, excluding in the winter months from May to September, in which case 'thickened interim cover' shall be applied as soon as practicable, but no later than 6 months. The thickened interim cover shall be soil and shall completely cover all refuse.
195. Intermediate cover shall be applied to any landfill area containing deposited refuse where further refuse placement is not planned to occur for a period greater than 12 months. The combined thickness of daily cover, interim cover (if any) and intermediate cover shall comprise soil applied to a combined minimum depth of 450 mm after compaction and be free from cracks or defects.
196. Final cover shall be applied to cap the landfill. The final cover shall include at least 600 mm of compacted low permeability soil, achieving a hydraulic conductivity of 10^{-7} m/s or less, and shall be free from cracks or defects.

Litter

197. Effective procedures shall be implemented to control litter. In particular the following measures shall be taken:
- (a) Best practicable options shall be used in the vicinity of the working face in order to control windblown litter;

- (b) Regular patrols shall be conducted to identify and pick up wind-blown litter within the landholding, including the site entrance; and
- (c) Any trucks delivering waste to the landfill shall be covered if there is any potential for litter leaving the trailer.

198. Waste shall be transported to the landfill as follows:

- (a) In fully enclosed bins if being delivered to the bin exchange area; or
- (b) In covered loads where delivered directly to the working face, if the waste may create dust or release windblown debris;

Materials that are non-dusty and non-odorous are not required to be covered but shall be contained within the truck/trailer.

Lining system

199. The lining system for the landfill on both the base and side slopes shall, as a minimum, comprise one of the following two lining systems:

(a) Type 1 Lining system (from top to bottom):

- (i) 300 mm layer of leachate drainage material;
- (ii) Protection geotextile;
- (iii) 1.5 mm HDPE geomembrane; and
- (iv) 600 mm compacted soil (clay) with a coefficient of permeability $k < 1 \times 10^{-9}$ m/s.

(b) Or Type 2 lining system:

- (i) 300 mm layer of leachate drainage material;
- (ii) Protection geotextile;
- (iii) 1.5 mm HDPE geomembrane;
- (iv) Geosynthetic clay liner (GCL); and
- (v) 600 mm compacted soil with a coefficient of permeability $k < 1 \times 10^{-8}$ m/s.

200. The Consent Holder may use alternative lining and leachate drainage systems demonstrated to provide equivalent or better performance compared with the specified systems. Use of an alternative lining system shall be subject to prior written approval of the Peer Review Panel and Council.

201. Where the bottom of the lining system is less than 2 m vertically above fractured bedrock, the subgrade will be sub excavated and replaced with compacted inorganic

soil with a coefficient of permeability $k < 1 \times 10^{-8}$ m/s to provide an additional attenuation layer of a minimum 2 m thickness.

202. The specification for the selection, placement, compaction and testing of the lining soil/clay shall be presented to Auckland Council, prior to the first lining clay being placed, for review and approval as part of the Landfill Management Plan (Condition 356). All lining soil/clay shall meet the requirements of the approved specification.
203. A Type 2 lining system shall be used on the base of the landfill and on sidewalls up to the first bench.
204. The selected GCL and geomembrane shall meet the requirements of the GRI Standards GCL3 and GM13.
205. Except in the sumps, the leachate drainage system shall be designed to achieve a leachate head not in excess of 300 mm at any point above the geomembrane.
206. The depth of leachate above the liner at the lowest point of the landfill shall be measured either continuously or daily. Where a sump is present at the low point, the level shall be measured above the liner within 5 m of the top of the sump. Should the level exceed 300 mm for more than 7 consecutive days the consent holder shall notify Council and take immediate steps to reduce the leachate level. The Consent Holder shall report to Council daily, advising the leachate level and the action being taken until the level has returned to less than 300 mm above the liner.
207. An additional HDPE geomembrane shall be provided beneath the GCL of the Type 2 lining system within the leachate sumps.
208. Following an earthquake event that is likely to have resulted in peak ground acceleration of equal to or greater than 0.19g in the vicinity of the site, a review of the lining system shall be prepared by a suitably qualified landfill engineer to confirm the performance of the geomembrane is not compromised and will be submitted to Council.
209. The consent holder shall retain an independent testing organisation approved by the PRP to monitor the construction of the lining system including the subgrade and to undertake quality assurance (QA) of all components of the lining system and their installation. QA shall include oversight of the testing undertaken by the contractor, regular observation of lining system placement and testing, and a review of all quality control documentation produced by the supplier and contractor.
210. On completion of each stage of lining system installation, a report shall be prepared by the independent testing organisation and shall include all of the test results, a description of the observations undertaken and certification that the lining system had been installed in accordance with the specification. This report shall be submitted to the Peer Review Panel (see Condition 212) who will make recommendations to Council on whether the lining system has been installed in accordance with the specifications. The consent holder shall obtain approval from Council of each stage of lining system construction prior to any waste being placed in the area.

211. Leachate storage and management facilities shall be designed for a capacity 50% greater than the calculated (as calibrated against the previous year's results) maximum leachate volume produced over a three day period for any stage of operation of the landfill. To demonstrate compliance with this condition, the calculated maximum leachate volume and the leachate storage and management facilities shall be described in the LMP, which is updated from time to time.

Peer Review Panel

212. The Consent Holder shall, at least one month prior to the Initial Site Construction Works, establish and maintain a Peer Review Panel (PRP) at its cost. The objective and scope of the PRP is as described in Table 5 below.

Table 5: Objective and scope of the PRP

Activity	PRP Scope
Applicable Land titles	[Titles to be inserted of consent-holder landholdings]
Inclusions	<p>Includes activities described in this table that take place within the applicable land titles and fall under the Resource Management Act 1991.</p> <p>Includes administrative activities related to the landfill's resource consents that may take place off the land e.g. meetings and liaison.</p>
Exclusions	<p>Excludes review of any work not directly related to landfill, in or on:</p> <ul style="list-style-type: none"> • Sunnybrook Reserve; • Dome Forest; • Off-site ecological enhancement sites; • Land outside the Landfill Precinct; • Legal roads inside the Landfill Precinct; • Buildings inside the Landfill Precinct subject to Building Consents (other than dams); • Renewable energy centre; • Airfield on Springhill farm; and • Exotic forestry. <p>Excludes:</p> <ul style="list-style-type: none"> • Landfill gas treatment plant and leachate treatment plant electrical and mechanical processes and controls (matters under other legislation); and • Greenhouse gas capture, destruction and reporting (matter for EPA). <p>Excludes review of any activity that:</p>

	<ul style="list-style-type: none"> • Falls under the Health and Safety at Work Act 2015; and • Falls under the Building Act 2004 (other than dams).
Membership	<ul style="list-style-type: none"> • The consent holder selects, invites and seeks agreement of potential individual members to join the PRP, requests approval by Council, and upon Council approval engages the members. • The PRP and consent holder jointly share responsibility for current terms of engagement. • The PRP may at its discretion and reasonable cost co-opt or commission expertise outside of their own in order to fulfil the PRP's function.
Landfill management	Review of the range of knowledge and experience of staff appointed by consent holder to the two principal positions of responsibility i.e. for construction management and site operations management, and to provide that review to WMNZ and the Council.
Six-monthly report	<p>Topics to be covered include:</p> <ul style="list-style-type: none"> • PRP membership and deliberations; • Matters reviewed and reported; • Approvals given; • Geotechnical investigations; • Engineering final design; • Construction activity; • Construction quality assurance; • Lining system performance; • Waste pile stability; • Land movement and stability; • Waste containment; • Leachate containment, levels and collection; • Leachate handling and disposal on site; • Landfill gas capture; • Landfill gas reticulation to treatment plant; • Air discharges; • Landfill gas monitoring of fugitive emissions and subsurface migration; • Odour; • Groundwater and surface water quality; • Final cap placement and testing; • Any dumping of hazardous waste; and • Failures, fires and damage relating to any above topic, and response by Consent Holder.
Monthly reports	Review and feedback to Consent Holder on monthly reports and information packages provided by consent

	holder so that the PRP may address in a timely way any of the topics listed for the six-monthly reports.
Seasonal construction design including lining system	<ul style="list-style-type: none"> • Review and approval of final design of each phase in accordance with the consented concept design (which may include correspondence with and amendments by consent holder before completing final design). • Review and approval of any more than minor modifications to the consented concept design. • Copies of final approvals sent direct to Council.
Seasonal construction in progress including lining system	Oversight of general phase construction and lining system construction activity in progress and quality assurance in progress as required to support approval at completion of each construction phase prior to waste placement.
Seasonal construction completion including lining system	<ul style="list-style-type: none"> • Review of construction and quality assurance records collated by the QA organisation upon completion of each phase. • Approval of each phase of construction as 'fit-for-purpose' and approval of each phase lining system upon completion as 'in accordance with design and design intent'. • Review of subgrade inspection reports by the independent QA organisation and the designer's representative. • Submission of PRP final approvals direct to Council at completion of each construction and lining phase prior to waste placement.
Independent QA testing	<ul style="list-style-type: none"> • Review and advice on the suitability of the QA testing organisation retained or proposed to be retained by WMNZ. • Review and approval in advance of the arrangements for independent QA testing to achieve the designer's specifications (such arrangements to include independent geotechnical testing, land surveying set-out and as-built, and independent engineering oversight).
Waste mass	Review and advice on any matter related to or influencing waste pile land stability which may include but not be limited to: waste composition; waste moisture; leachate levels; leachate generation; stormwater infiltration controls; cover and capping; settlement; waste placement methods; and waste layout and sequence insofar as it relates to stress on the lining system and slope stability.
Auckland Council	Provision of regular reports described in this table.

	Response to inquiries from Council seeking clarification on matters within the PRP's scope.
Community Liaison Group	<ul style="list-style-type: none"> • Provision of a personal point of contact for the CLG. • Response to specific inquiries direct from the CLG. • Attendance of a PRP representative at the CLG meeting following each of the PRP's six-monthly reports. • Review and feedback on complaints.
Landfill Management Plan	<ul style="list-style-type: none"> • Review and approval of the overall LMP (which may include correspondence with and amendments by WMNZ prior to finalising), excluding these Management Plans: Transitional Facility Biosecurity; Ecological Landscape and Visual Effects; Ecological Pest Animal; Stream Offset Works and; Ecological Pest Animal. • Advice on the PRP's own recommendations for amendments to the LMP.
Leachate recirculation	Approval of the areas, procedures and volumes for the disposal of leachate into the landfill.
Technical review	<ul style="list-style-type: none"> • Any technical review requested by consent holder that relates to the landfill. • Advice upon request from consent holder or Council on how landfill operations on site within the PRP scope may contribute to compliance on matters outside the PRP scope.
Meetings	<ul style="list-style-type: none"> • Meeting with Consent Holder at such frequency as the PRP reasonably consider necessary to discharge their functions, but not less than three times in any calendar year unless specifically agreed by both parties. • Setting agenda that accommodate discussion on any matter within the scope of the PRP.

213. The PRP shall consist of a maximum of five members and a minimum of three members. The PRP members must be employed independently from the Consent Holder and must have appropriate experience and qualifications in landfill design and management, as certified by Council. All members are to be appointed by the consent holder following consultation between the Consent Holder and Council.
214. The consent holder shall provide a report from the PRP at six monthly intervals ending 31 March and 30 September each year to the Council, summarising the matters listed under "Six Monthly Report" in Table 5 above.
215. The Consent Holder shall ensure that records are kept of any site investigations for any works and the results of all monitoring tests associated with all consents granted for the landfill operation subject to the exclusions in Table 5 above and that these records are forwarded monthly to the PRP.

Waste Acceptance

216. Material accepted into the landfill shall be limited to non-hazardous commercial wastes, non-hazardous industrial wastes, residential wastes, construction and demolition debris, contaminated soils, sludges from wastewater treatment plants with a solids content greater than 20% and site-generated sludges. Wastewater treatment plant sludges with a solids content less than 20% may be accepted if the chemical and physical stabilisation processes ensure that the sludges contain no free liquids as determined by the paint filter test at the point of loading into trucks going direct to the landfill.
217. Material accepted into the landfill must meet the Waste Acceptance Criteria set out in the Landfill Management Plan which includes the list of prohibited waste as defined in [Technical Guidelines for Disposal to Land, Waste Management Institute of New Zealand, August 2018]. Any waste not meeting these criteria shall not be accepted for disposal at the landfill.
218. The Consent Holder must keep sufficient records to show that any waste accepted for disposal meets the Waste Acceptance Criteria.
219. The Consent Holder shall conduct a survey of the types of waste received by the landfill in accordance with the Solid Waste Analysis Protocol (Ministry for the Environment, 2002) over a period of not less than five (5) working days, every five years. The results of this survey shall be forwarded to Council within three months.
220. The Consent Holder shall commission an independent review of the Waste Acceptance Criteria specified in the Landfill Management Plan (Condition 356) every 5 years. The purpose of this review is to consider whether any additional Waste Acceptance Criteria should be added or if existing criteria should be adjusted to account for emerging contaminants. The results and conclusions, along with any recommended changes to the waste acceptance criteria shall be provided to Council within three months for their review and certification and to support any proposed change to the Landfill Management Plan. Any recommended changes to the Waste Acceptance Criteria shall be incorporated into the Landfill Management Plan as part of the next annual review.
221. Leachate, condensate and site-generated sludges from the operation of any leachate evaporator unit, cesspits and drains, and landfill gas reticulation system on the site may also be disposed of into the landfill in areas and by procedures and within volumes and/or weight limits approved by Council and described in the LMP required by Condition 356.
222. If any waste load is rejected at the gatehouse or at the working face because it is hazardous, then consent holder shall notify Council within 2 working days including details of the generator and transporter of that hazardous waste.
223. Pre-acceptance testing is required for all special wastes and likely contaminated soils whose contaminant concentrations are not known, with the exception of up to 100m³ of soil from any site up to 2000m² where that site is a discrete development site, where

the only Hazardous Activities and Industries List (HAIL) activity is historical horticulture, provided the source site was only ever part of broad-acre pesticide application, where pre-acceptance testing shall be at the discretion of the Consent Holder. The Consent Holder shall ensure that disposers provide appropriate evidence to demonstrate that the source site was only ever used for broad-acre horticultural activity in accordance with the process described in the Landfill Management Plan.

224. Pre-acceptance testing for special wastes shall comprise at least 1 sample tested for the Toxicity Characteristic Leaching Procedure (TCLP) concentrations of the key contaminants of concern associated with that waste. If total concentrations are used instead of TCLP, then at least 1 sample shall be tested for the total concentrations of the key contaminants of concern associated with that waste. If total concentrations exceed the Total Concentration Value (TCV), then TCLP testing must be done. The method for determining sampling density must be set out in the Landfill Management Plan.
225. If there are no TCLP limits for the contaminants of concern in a waste, then acceptance of the waste will be based on the case-by-case assessment process described in the Landfill Management Plan.
226. The requirements for TCLP testing are:
- (a) The testing must be done by an accredited laboratory;
 - (b) The sample must represent the material; and
 - (c) The sampling programme design shall be aimed at finding worst-case or average concentrations.
- 227A The Consent Holder will accept up to 50,000 tonnes of waste recovered from old, historic dumps within the Kaipara catchment for containment within the landfill at no cost, provided that:
- (a) The consent holder will not be responsible for the retrieval or costs of retrieval of any waste from old dumps;
 - (b) The consent holder may not accept waste where it will be required to meet the costs of any levies, fees or other charges required for the disposal of this waste under the Waste Minimisation Act 2008 or any subsequent legislation requiring levies, fees or charges to be paid for the disposal of waste; and
 - (c) The waste meets the standards for waste acceptance included at conditions 216 – 226 above and as expressed in the Landfill Management Plan per condition 356. The consent holder will keep records of any waste accepted under this condition, and ensure it meets the reporting requirements to Council for the acceptance of this waste.

Operational noise

227. If trucks accessing the bin exchange area between 7pm-7am are fitted with reversing alarms, then the alarms shall be to be fitted with a broadband reverse alarms. In addition, mufflers should be fitted on vehicles where practicable, and no horns shall be used at the bin exchange area.
228. The cumulative noise from all operational activities operating on the site shall comply with the following Noise Rating Levels when measured and assessed at any Notional Boundary (as defined in Chapter J of the AUP):

Time period	Noise limit
0700 – 2200 hours Monday to Saturday 0900 - 1800 hours Sunday	55 dB LAeq
At all other times	40 dB LAeq and 75 dB L _{AFmax} at any Notional Boundary more than 300m away from the centreline of State Highway 1 45 dB LAeq and 75 dB L _{AFmax} at any Notional Boundary up to 300m from the centreline of State Highway 1.

229. Noise levels shall be measured and assessed in accordance with New Zealand Standards NZS 6801:2008 “Acoustics - Measurement of Environmental Sound” and NZS 6802:2008 “Acoustics - Environmental Noise”.
230. The Consent Holder shall undertake a series of noise level measurements as set out below. The purpose of the measurements is to demonstrate whether the noise levels arising from activities authorised by this consent are compliant with the maximum permitted noise levels set out in those conditions. The noise measurements shall be carried out:
- (a) Within one month after the commencement of operation of:
- (i) The Working Face;
 - (ii) The Clay Borrow Area;
 - (iii) Stockpile 1; and
 - (iv) The Bin Exchange area.
- (b) Within three months after commencing operations of any item of permanent fixed plant, including any landfill gas utilisation plant, landfill gas powered electricity generator, leachate treatment plant, leachate evaporator or flare, that brings the total power (adding power consumption or power output whichever is the greater for each item), ignoring silent heat loss, to 3 MW more that at the time of any previous noise monitoring.

231A Within one month of the noise level measurements required by Condition 230(a) being completed, and again, within one month of any further noise measurements required by Condition 230(b) being completed, the Consent Holder shall submit a report prepared by a suitably experienced and qualified acoustics expert to Council for certification. The report prepared in accordance with Condition 231 shall demonstrate the results of the noise level measurements required by Conditions 229 and 230, including the details of any adjustments that have been applied to the measurements. The report shall also set out a detailed analysis of the cumulative noise rating level beyond the site boundaries at any notional boundary (as defined in the AUP) arising from the concurrent operation of all activities that are permitted to operate concurrently on the site.

231. Prior to the installation of any new noise generating plant on site (e.g. generators, leachate evaporators, blowers or flares) within 1 km of any notional boundary (as defined in the AUP), the Consent Holder must submit a report from a suitably qualified and experienced acoustics expert to the Council for certification that sets out the following:

- (a) The predicted noise rating level arising from the operation of the new plant at all notional boundaries within 1km of the plant;
- (b) The predicted cumulative noise rating level arising from the operation of the new plant and all other noise sources on the site that may operate concurrently and that are subject to the noise limits in Condition 228;

The new plant may not be commissioned if the noise rating level predictions show non-compliance with the noise limits in Condition 228.

Once the new plant is operational, the noise emissions shall be measured to confirm compliance with noise limits in Condition 228, either by direct measurement at the most exposed notional boundary, or if that is not practicable, by a measurement near the source to verify the predictions undertaken in accordance with the requirements above.

232. If non-compliance with the noise limits of Condition 228 is identified, noise mitigation measures are to be implemented as soon as practical to achieve compliance. Once compliant noise emissions are confirmed, the results and any mitigation process shall be documented in a report prepared by a suitably qualified and experienced acoustics expert and that report shall be submitted to Council for its certification within one month of the mitigation measures being implemented.

Lighting

233. Lighting of the State Highway 1 roundabout shall comply with the relevant NZTA standards for lighting on State Highways. Unless otherwise required by NZTA, luminaires shall be installed with zero upward tilt and produce no more than 1% direct upward light.

- 233A. Subject to Condition 234, lighting shall be minimised while being sufficient for safe operation, in accordance with the recommendations of AS/NZS 1680.5:2012 (Outdoor workplace lighting) and the AS/NZS 1158 suite of standards (Lighting for roads and public spaces).
234. Prior to any permanent exterior lighting being established within the WMNZ landholding, the Consent Holder shall provide a finalised Lighting Design Plan to Council for certification in sufficient detail that demonstrates that:
- (a) Subject to (b), (c) and (d) below, the proposed lighting meets the relevant permitted standards in Chapter E24 of the Auckland Unitary Plan;
 - (b) All permanent exterior lighting is downward facing, with zero upward tilt, emits zero direct upward light and is not located on the ridgelines (unless there is no practicable alternative or it is required for safety reasons);
 - (c) That a suitably qualified bat ecologist has been consulted on the design and its implications for bats; and
 - (d) The exterior lighting for the bin exchange area shall not exceed 2700 K.
235. Within 2 months after installation of lighting, the Consent Holder shall provide a report from a suitably qualified lighting expert confirming that all lighting has been installed in accordance with the finalised Lighting Design Plan prepared in accordance with Conditions 233, 233A and 234.
236. Lighting within the site shall not be obtrusive and shall meet lighting standards (as outlined in Conditions 233A and 234) so that glare and light spill is generally confined to the site to minimise sky glow effects on the surrounding environment.
237. Signage shall be installed within the site requiring that when vehicle headlights are used, they shall be dipped (low beam) at all times.

Culvert design – Seasonal Construction

238. Where practicable, fish passage shall be provided for new culverts within intermittent or permanent streams unless deemed unnecessary or impractical by a suitably qualified freshwater ecologist, who has assessed the fish passage requirements in accordance with New Zealand Fish Passage Guidelines for structures up to 4 metres (NIWA, 2018). Where fish passage is deemed unnecessary or impractical, appropriate data and rationale for this decision shall be provided with the design drawings to Council for certification. This requirement does not apply to culverts entering or discharging from Ponds 1 to 5.
239. Culvert design for new culverts within intermittent or permanent streams shall:
- (a) Be designed to accommodate the 1 per cent annual exceedance probability flood without materially increasing flood levels upstream or downstream of the structure;

- (b) Fish passage elements shall be informed by the 'New Zealand Fish Passage Guidelines for structures up to 4 metres' (NIWA, 2018); and
- (c) Incorporate energy dissipation and erosion control to minimise the occurrence of bed scour and bank erosion in receiving environments.

Erosion and Sediment control for operations and seasonal earthworks

240. The operational effectiveness and efficiency of all erosion and sediment control measures required by the ESCPO provided in accordance with Condition 365 shall be maintained throughout the duration of earthworks activity, or until the area of works is permanently stabilised against erosion.

Pre-commencement meeting

241. Prior to the Initial Site Construction Works, the Consent Holder shall hold a pre-start meeting for each of the activities that:
- (a) Is located on the subject site;
 - (b) Is scheduled not less than five days before the anticipated commencement of earthworks;
 - (c) Includes Council; and
 - (d) Includes representation from the contractors who will undertake the works.
242. The meeting shall discuss the erosion and sediment control measures, ongoing adaptive management regime and shall ensure all relevant parties are aware of and familiar with the necessary conditions of this consent.

The following information shall be made available at the pre-start meeting

- (a) Timeframes for key stages of the works authorised under this consent;
- (b) Resource consent conditions;
- (c) Erosion and Sediment Control Plan for Landfill Operation (ESCPO) ; and
- (d) Adaptive Management Plan.

Advice Note: To arrange the pre-start meeting please contact the Council to arrange this meeting on monitoring@aucklandcouncilgovt.nz, or 09 301 01 01. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

Erosion and Sediment Control Certification

243. Prior to the commencement of any earthworks, a certificate signed by an appropriately qualified and experienced person shall be submitted to the Council, to certify that the erosion and sediment controls for the clay borrow and stockpile areas have been

constructed in accordance with the approved ESCPO required by condition 365. Certified controls shall include but not be limited to the sediment retention ponds, clean and dirty water diversion bunds, stabilised construction entrances, silt fencing and super silt fencing. The certification for these and any subsequent measures shall be supplied immediately upon completion of construction of those measures. Information supplied, if applicable, shall include:

- (a) Contributing catchment area;
- (b) Shape and capacity of structures (dimensions of structure);
- (c) Position of inlets/outlets; and
- (d) A statement that the erosion and sediment control measures have been constructed in accordance with Auckland Council Guideline GD05; except where a higher standard is detailed in the documents referred to in the ESCPO required by condition 365, in which case the statement shall confirm that the higher standard has been constructed.

Erosion and Sediment Control Maintenance

- 244. The erosion and sediment controls implemented throughout the landfill operation shall be inspected on a regular basis, and within 24 hours after each rainstorm event that is likely to impair the function or performance of the control measure. A record shall be maintained of the date, time and extent of any inspection, maintenance and repair undertaken in association with this condition which shall be forward to Council on request.
- 245. Earthworks shall be managed throughout the landfill operation to avoid deposition of earth, mud, dirt or other debris on any road or footpath resulting from earthworks activity on the subject site. In the event that such deposition does occur, it shall immediately be removed. In no instance shall roads or footpaths be washed down with water without appropriate erosion and sediment control measures in place to prevent contamination of the stormwater drainage system, watercourses or receiving waters.

Advice Note: In order to prevent sediment laden water entering waterways from the road, the following methods may be adopted to prevent or address discharges should they occur:

- (a) *Provision of a stabilised entry and exit(s) point for vehicles;*
- (b) *Provision of wheel wash facilities;*
- (c) *Ceasing of vehicle movement until materials are removed;*
- (d) *Cleaning of road surfaces using street-sweepers;*
- (e) *Silt and sediment traps; and*

(f) *Catchpit protection.*

It is recommended that you discuss any potential measures with the Council's monitoring officer who may be able to provide further guidance on the most appropriate approach to take. Please contact the Council for more details. Alternatively, please refer to Auckland Council Guidance Document GD05, Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region.

246. The operational effectiveness and efficiency of all erosion and sediment control measures required by the ESCPO provided in accordance with Condition 365, shall be maintained throughout the duration of any land disturbing activities associated with the operation, or until the site is permanently stabilised against erosion.
247. Erosion and sediment control measures implemented for the landfill operation shall be constructed and maintained in general accordance with Auckland Council Guidance Document GD05; Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region and any amendments to this document, except where a higher standard is detailed in the documents referred to in the consent conditions, in which case the higher standard shall apply.
248. Upon completion or abandonment of earthworks for the landfill operation on the subject site, all areas of bare earth shall be permanently stabilised against erosion to the satisfaction of the Council.

Advice Note: Should the earthworks be completed or abandoned, bare areas of earth shall be permanently stabilised against erosion. Measures may include:

- (a) *The use of mulching;*
- (b) *Top-soiling, grassing and mulching of otherwise bare areas of earth; and*
- (c) *Aggregate or vegetative cover that has obtained a density of more than 80% of a normal pasture sward.*

The on-going monitoring of these measures is the responsibility of the Consent Holder.

Restriction on Seasonal Construction Works

249. No Seasonal Construction Works, shall be undertaken between 01 May and 30 September in any year, without the prior written approval of Council. Revegetation/ stabilisation is to be completed by 30 April in accordance with measures detailed in GD05 and any amendments to this document.
250. Winter Earthworks shall only be considered for approval by the Council in the following scenarios:
- (a) Completion of a specific earthworks area is required to prevent a specific risk or hazard which may result in sediment discharge, or harm to people or the environment if left un-completed;

- (b) Where irregular climate conditions allow for earthworks to be completed throughout prolonged periods of dry weather.; or
- (c) Where an area of less than 2,500m² is proposed to be worked at any one time.

Advice Note: Conditions 249 and 250 do not apply to the placement of daily cover on the working face of the landfill, and associated utilisation of Stockpile 1.

Review and Completion of Works

- 251. The investigation, final design, specification and construction of landfill and appurtenant structure earthworks shall be carried out or reviewed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist.
- 252. A detailed construction methodology shall be prepared and included in the CEMP as required by Condition 66 to ensure that the proposed earthworks are staged and carried out in a manner that will not contribute to slope instability, and to ensure that subsoil drainage is provided where appropriate. A signed and dated record of each assessment shall be kept including a pictorial representation of the slope showing all relevant geotechnical and geological features, all unanticipated conditions, and including notes describing any recommended mitigation measures. This record shall be incorporated in the completion report (as required by Condition 254).
- 253. Cut slopes shall be assessed by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist for the presence of adverse geological conditions including landslide deposits, geological faults and the groundwater seepage.
- 254. On satisfactory completion of earthworks, the Consent Holder shall submit a completion report and appropriate stability and suitability statements prepared by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist. All earthworks shall be carried out in accordance-with appropriate earthworks specification prepared by a Chartered Professional Engineer practicing in geotechnical engineering or an Engineering New Zealand registered Professional Engineering Geologist.

Erosion and Sediment Control for Clay Borrow Area and Stockpile 1

- 255. At any one time the maximum open area of the Clay borrow area and Stockpile 1 and topsoil stockpile shall not exceed 5ha.
- 256. Prior to the commencement of any earthworks at the Clay borrow, Stockpile 1 or topsoil stockpile, a Stockpile Chemical Treatment Management Plan (SCTMP) shall be submitted to Council for certification that details how all impoundment devices utilised throughout the enabling and establishment, shall be treated. The plan shall include as a minimum:

- (a) Specific design details of the chemical treatment system based on a rainfall activated methodology for the site's sediment retention ponds and decanting earth bunds;
 - (b) Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
 - (c) Bench testing results;
 - (d) Details of optimum dosage (including assumptions);
 - (e) Results of initial chemical treatment trial;
 - (f) A spill contingency plan; and
 - (g) Details of the person or bodies that will hold responsibility for long term operation and maintenance of the chemical treatment system and the organisational structure which will support this system.
257. No earthworks within the Clay borrow, Stockpile 1 or Topsoil stockpile shall commence until written certification for the CESCP, SCTMP and relevant SSES CP has been provided from Council.
258. All decanting earth bunds, sediment retention ponds and any other authorised impoundment devices used with the Clay borrow, Stockpile 1 or Topsoil stockpile, shall be chemically treated in accordance with the approved Stockpile Chemical Treatment Management Plan (SCTMP) unless otherwise approved by Council. Any amendments to the SCTMP or approvals to not chemical treat where not practicable shall be submitted in writing to Council, for written certification prior to implementation.
- 259A. At any one time, the maximum open area of the landfill site, excluding the Clay borrow area and Stockpile 1, shall not exceed 7000m², unless otherwise approved under Condition 259B.
- 259B. During the construction of new landfill cells, the open area limit imposed by Condition 259A may be increased with the written approval of Council, subject to the submission and approval of a Site Specific Erosion and Sediment Control Plan to Council that addresses that activity. The Site Specific Erosion and Sediment Control Plan shall include, but not be limited to:
- (i) The relevant matters listed in Condition 128;
 - (ii) Chemical treatment of sediment retention devices, subject to the Chemical Treatment Management Plan that incorporates the details listed in Condition 256;
 - (iii) Details on how the open area during the new cell construction will be minimised; and
 - (iv) Timing of stabilisation.

The works addressed in this condition will be subject to the season restriction of Condition 249.

General air discharge conditions

259. All discharges of contaminants into air arising within the site boundary from an activity authorised by this consent are the responsibility of the Consent Holder. Any person responsible for operations and discharges to air associated with the process or site shall be made aware of the relevant conditions of this consent.
260. All processes on Site shall be operated, maintained, supervised, monitored and controlled to ensure that emissions to air authorised by this consent are maintained at the minimum practicable level.
261. Except as authorised by this Consent, beyond the boundary of the site, there shall be no hazardous air pollutant, caused by discharges from the site, which is present at a concentration that causes, or is likely to cause adverse effects to human health, ecosystems or property.

Air quality

262. There shall be no burning of waste on site.

Dust

263. Beyond the boundary of the site, there shall be no dust caused by discharges from the site authorised by this consent which, in the opinion of a suitably qualified and experienced enforcement officer, is noxious, offensive or objectionable.
264. Effective dust control procedures shall be implemented at the site including, but not limited to:
 - (a) Watering of unpaved internal access roads and manoeuvring areas in active use during dry periods;
 - (b) Maintenance of all access and manoeuvring areas to the satisfaction of Council in order to reduce the creation of dust and to prevent the deposition of significant dirt or other material onto public roads; and
 - (c) Maintenance of a permanent water supply of sufficient capacity on the site to control dust at the working face and to dampen down unsealed access roads.

Landfill gas

265. The Consent Holder shall install and operate a gas extraction system in a manner which ensures that the rate of extraction of landfill gas is maximised, while minimising the risk of landfill fire due to over extraction.

Advice Note: The landfill gas extraction system shall be installed and operated in accordance with the Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

266. All extraction wells shall be connected to the gas extraction system as soon as practicable, and in any case, not longer than 6 months after placing wastes within the radius of influence of the wells. Passive flares with flame arresters shall be allowed to burn the gas venting from the wells prior to connection to the gas extraction system.
267. The gas extraction and treatment system shall be restored as soon as practicable in the event of a malfunction or fault. The Consent Holder shall maintain a standby diesel generator or equivalent on site for the purpose of restarting gas extraction blowers as soon as possible in the event of a mains power failure. The procedures for reducing emissions to air during a mains power failure including the operation of the generators, flares and standby diesel generator and during routine maintenance shall be documented in the Landfill Gas Management Plan (LGMP) required by Condition 363.
268. All extracted landfill gas shall be combusted in a flare(s) or generator(s) or evaporator(s) in accordance with the following requirements:
- (a) Any landfill gas flare(s) shall comply with the following minimum specifications:
 - (i) Flame arrester and backflow prevention devices, or similar equivalent system;
 - (ii) Continuous automatic ignition system;
 - (iii) Automatic isolation systems to ensure that there is no discharge of unburnt landfill gas from the flare in the event of flame loss;
 - (iv) Minimum temperature of 750 °C and retention time of 0.5 seconds;
 - (v) A permanent temperature indicator at half a diameter from the top of the flare with a visual readout at ground level;
 - (vi) Minimum stack height of 9 m above ground level;
 - (vii) Adequate sampling ports to enable emissions testing to be undertaken; and
 - (viii) Provision for safe access to sampling ports while any emission tests are being undertaken.
 - (b) The landfill gas powered generator shall comply with specifications a(i) and a(iii) above; and
 - (c) Any landfill gas emergency flare shall comply with specifications a(i, iii, vi to viii) above.

269. No more than 12 generators shall be operated at any one time for the purposes of landfill gas combustion.
270. There shall be no visible emission, other than water vapour, light, heat haze, or steam, from a landfill gas destruction device.
271. Each generator engine shall be tuned at least once every six months to comply with a maximum concentration of 550 mg/m³ Nitrogen Oxides (NO_x) in the exhaust gas.
272. The concentration of methane at the surface of landfill areas with intermediate or final cover shall not exceed 0.5% (5000 ppm) by volume except where repairs are completed and retests confirm non-exceedance of this limit in accordance with the timeframes specified in Condition 266.

Advice Note: To minimise fugitive landfill gas emissions, methane concentrations above the landfill surface are measured by the three-monthly surface emission monitoring required by Condition 276. If this monitoring identifies an exceedance of the above threshold, remedial actions are required to be implemented or approved by Council within 10 working days as per Condition 277.

273. The concentration of methane in sub-surface gas migration monitoring probes outside the landfill footprint shall not exceed 5% by volume.

Advice Note: Potential sub-surface migration of landfill gas is monitored on a monthly basis under Condition 279. Any exceedance of the above threshold should be immediately investigated and remediated, including advising the Council.

274. The residual nitrogen content of landfill gas in all extraction wells shall not exceed 20% by volume.

Monitoring

275. A walkover site inspection within the landfill footprint shall be undertaken no less frequently than weekly. Any evidence of actual or potential landfill gas leaks, such as odour, cracks in the landfill surface, gas bubbles, leaks in the gas extraction system or vegetation damage shall be investigated. Where necessary remedial action shall be undertaken as soon as practicable to minimise fugitive gas discharges.
276. A Flame Ionisation Detector (FID) or equivalent shall be used to carry out surface emissions monitoring for methane over the entire surface of the landfill on at least a 30 m by 30 m grid basis excluding the working face at least once every three-months.
277. If monitoring carried out in accordance with Condition 275 demonstrates that the surface methane gas concentration limit specified in Condition 272 is exceeded, then remedial action shall be carried out and the concentrations re-tested within 14 days. If this is not practicable, the Consent Holder shall obtain the approval of Council for a proposed programme of remedial action, including a timetable, within 14 days of the exceedance. The proposed programme shall be implemented to the satisfaction of Council within the proposed time period.

278. Methane concentrations shall be measured and recorded using hand-held landfill gas analysis instruments on a monthly basis in each of the sub-surface gas migration monitoring probes outside the landfill footprint to demonstrate compliance with Condition 273.
279. Landfill gas shall be monitored at each extraction wellhead or, if more appropriate, at manifold points, on a monthly basis. Monitoring shall be carried out using calibrated instruments. The following parameters shall be measured and recorded:
- (a) Gas flowrate (m³/hour);
 - (b) Composition (methane (%v/v), oxygen (%v/v), carbon dioxide (%v/v), carbon monoxide (ppm), hydrogen sulphide (ppm));
 - (c) Residual nitrogen (% v/v) shall be calculated as the balance of gas measured in clause (b) to demonstrate compliance with Condition 274;
 - (d) Gas temperature (°C);
 - (e) Ambient temperature (°C);
 - (f) Gas pressure (mb); and
 - (g) Barometric pressure (mb).

Advice Note: The residual nitrogen content within landfill gas extraction wells is indicative of air being drawn into the landfill, leading to conditions conducive to sub-surface fire. The landfill gas extraction system is to be regularly tuned to maximise gas extraction while not drawing air into the waste. The monthly monitoring of wells tests for nitrogen content and other parameters (notably temperature, carbon monoxide and oxygen) to maintain this balance and reduce the risk of sub-surface fires.

280. The total LFG flow rate (m³/hour) and totalised LFG flow volume (m³) shall be monitored and recorded continuously at the Renewable Energy Centre. The flow meter shall be calibrated annually.
281. Landfill gas (blended) shall be monitored at the Renewable Energy Centre on a six monthly basis. The following parameters shall be measured and recorded:
- (a) Gas flowrate (m³/hour);
 - (b) Composition (methane (%v/v), oxygen (%v/v), carbon dioxide (%v/v), carbon monoxide (ppm));
 - (c) Gas temperature (°C);
 - (d) Ambient temperature (°C);
 - (e) Gas pressure (mb);

- (f) Barometric pressure (mb);
- (g) Hydrogen sulphide (ppm); and
- (h) Total non-methane organic compounds (ppm).

282. Emission 'stack' testing shall be undertaken on the generator exhausts to demonstrate compliance with condition 271, (NO_x) and determine fine particulate matter (PM_{2.5}), total methane organic compounds and sulphur dioxide emission concentrations. On each sampling occasion in (b) below, emissions measurement results shall be averaged over all test results for each pollutant, for each generator tested. These tests shall:

- (a) Be conducted for nitrogen oxides, PM_{2.5} (measured as total filterable particulate), total non-methane organic compounds and sulphur dioxide;
- (b) Be conducted within one year after the first generator is installed and thereafter at least once every three years. Once there are two or more generators installed, at least two representative generators shall be tested on each sampling occasion. Once there are four or more generators installed, different generators shall be tested on each consecutive sampling occasion;
- (c) Be conducted in accordance with:
 - (i) ISO 7935:1992, ISO 7934:1998, USEPA Method 6 or 6C (sulphur dioxide);
 - (ii) AS4323.2-1995, ISO 9096:2003 or USEPA Methods 5 or 5I (PM_{2.5});
 - (iii) USEPA Method 18 (non-methane organic compounds);
 - (iv) ISO 10849:1996 or US EPA Method 7E (nitrogen oxides); and/or
 - (v) Other equivalent methods to the satisfaction of the Council.
- (d) Be carried out by a company with suitable accreditation for the method(s) required by (c) above;
- (e) Be conducted during normal process conditions that will give rise to representative emissions; and
- (f) Comprise not less than three separate samples for each type of emission test undertaken at each generator;

Advice Note: The approval of the Council for an alternate method for source emissions testing will be based on a demonstrated advantage or equivalence of the method over the specified method for the accuracy and precision of results.

283. The Consent Holder shall implement monitoring measures that enable identification of all vehicles entering the site such that if malodorous loads are received at the working face, these wastes can be tracked to their source and subsequent loads from the

source shall only be accepted in accordance with the special odorous waste procedures detailed by the LMP.

284. Regular odour field inspections shall be undertaken around the landfill site. The field inspections shall:
- (a) Be carried out at least monthly by a representative of the consent holder whenever refuse is being received to the site; and
 - (b) Be conducted in general accordance with the methodology detailed by the Good Practice Guide for Assessing and Management Odour (Ministry for the Environment, 2016) and set out in the LMP.
285. The Consent Holder shall investigate the cause of any odour detected by these odour field inspections in accordance with the conditions of this consent and the LMP and shall remedy any faults located. A record of each field inspection shall be maintained including weather conditions, the location of any odours identified, the intensity, duration and character of the odour and the findings of any investigation. These records shall be provided to Council as part of the Annual Air Discharge Report. The records shall also be made available to the CLC, the MWR, PRP or an Enforcement Officer if requested.
286. The Consent Holder shall undertake monitoring to measure the concentrations of volatile organic compounds (VOC) in ambient air in at least three locations within the vicinity of the Landfill (including one location at or near to the site boundary) using passive samplers or similar techniques. The monitoring shall be conducted over a period of not less than 30 days, with monitoring rounds occurring within five years of the commencement of the landfill and repeated at least once every ten years thereafter. A report detailing the monitoring and comparing the results against relevant ambient air quality assessment criteria shall be included as part of the Annual Air Discharge Report for that year.
287. The Consent Holder shall maintain a meteorological monitoring station, located free from obstructions that accurately records weather conditions representative of the landfill. The data shall be recorded continuously at a minimum ten-minute resolution. The monitoring station shall be calibrated by a suitably qualified and experienced technician at least annually. The parameters measured shall include:
- (a) Wind velocity;
 - (b) Wind direction;
 - (c) Barometric pressure;
 - (d) Rainfall; and
 - (e) Temperature.

288. The Consent Holder shall maintain a log of all monitoring, inspections, investigations and actions taken in respect of air discharges in accordance with Conditions 275 to 287. The log shall be made available to Council upon request.
289. The Consent Holder shall submit a summary of landfill gas odour and air discharge monitoring results to Council annually. The summary shall include;
- (a) The average flow rate of landfill gas extracted (m³/hr);
 - (b) A summary of air discharge monitoring undertaken, including stack testing, ambient air quality monitoring, surface emission monitoring, and field odour inspections;
 - (c) A comparison of the actual landfill gas extraction rate with the predicted gas generation rate. Revised predictions shall be included where significant discrepancies are identified, as well as an explanation for the discrepancies.
 - (d) The current state of the landfill gas control system, including a map of existing extraction wells, generators and flares installed; and
 - (e) An estimate of average waste composition.
290. The Council shall be notified as soon as practicable in the event of any significant discharge to air, which results or has the potential to result in a breach of air quality conditions or adverse effects on the environment. The following information shall be supplied:
- (a) Details of the nature of the discharge;
 - (b) An explanation of the cause of the incident; and
 - (c) Details of remediation action taken.
291. The Consent Holder shall engage an independent consultant experienced in landfill gas (LFG) and odour management to prepare a report to be submitted to Council and the CLG at least once every five years. The report shall:
- (a) Review monitoring data related to odour field inspections and LFG collection and control recorded in accordance with the conditions of this consent over the past five years;
 - (b) Review all odour complaints received over the reporting period;
 - (c) Review the response to odour complaints;
 - (d) Review the adequacy of the air discharge management practices in the Landfill Management Plan in light of the findings of the reviews in clauses (a) to (c); and
 - (e) Recommend any changes to landfill odour and LFG management practices.

292. At ten and fifteen years following commencement of landfill operations, the Consent Holder shall submit a report assessing the landfill gas control system and air discharges from the Renewable Energy Centre against the Best Practicable Option (BPO) for minimising air quality effects. The BPO Report prepared by the consent holder shall be reviewed by an independent consultant experienced in landfill gas management. A copy of this review shall be provided with the report.
293. The landfill gas extraction system, leachate collection system, low temperature leachate evaporation unit and all associated ducting and pipe work shall be maintained in good condition and be free of gas or liquid leaks.

Leachate evaporator

294. The temperature of leachate in the low temperature leachate evaporation unit shall not exceed 95°C. The temperature shall be continuously monitored and recorded. The records shall be marked with the correct time and date.

Odour

295. Beyond the boundary of the site, there shall be no odour caused by discharges from the landfill which, in the opinion of a suitably qualified and experienced enforcement officer when assessed in accordance with the Good Practice Guide for Assessing and Managing Odour (Ministry for the Environment, 2016) is noxious, dangerous, offensive or objectionable.
296. Effective odour control procedures shall be implemented at the site including, but not limited to:
- (a) Keeping the working surface of the daily refuse cell to a practicable minimum in accordance with condition 191;
 - (b) Applying daily cover in accordance with condition 193;
 - (c) Managing known odorous wastes in accordance with specific procedures in the Landfill Management Plan, including but not limited to:
 - (i) Waste acceptance and pre-treatment criteria;
 - (ii) Restrictions on the hours of delivery; and
 - (iii) Procedures for excavations and immediate covering of placed waste.
 - (d) Ensuring equipment and materials for application of odour neutralising sprays are available for use and utilised as required.

Landscape and visual effects mitigation

297. All earthworks areas, including soil stockpiles, not intended to be disturbed for more than 4 months shall be grassed, hydroseeded or otherwise planted.

298. Any areas of the landfill which are no longer required for filling activity, and have reached the final contour and have final cover placed, shall be reseeded or planted with suitable groundcover species as outlined in the report titled 'Landscape and Visual Assessment' Dated May 2019 by Boffa Miskell Ltd and as specified in the Ecological and Landscape Enhancement and Restoration-Plan (ELERP) required by Condition 91 except if there is a difference then the current certified-ELERP shall prevail or unless there is an Aftercare approved Post Closure Management Plan which specifies planting on the final landfill cap. The timeframe of this planting implementation will be determined by the requirements and restraints of gas extraction infrastructure, schedule of progressive final capping, waste settlement and optimum planting seasons but shall be within 12 months of completion of the part of the final cover.
299. The final landform and restoration of the landfill cap and associated works shall be in accordance with the ELERP required by Condition 91.
300. Final contouring of earthworks, including stockpiles and landfill cap shall reflect natural or existing adjacent ground contours as far as practicable within engineering constraints.
301. The Consent Holder shall ensure that all buildings are designed as simple rural style structures with visually recessive external materials and colours related to the forest and bush setting, subject to any variation recommended by the MWR and as certified by Council. Non-reflective glass shall be used in glazing of buildings.

Spill prevention

302. All machinery shall be operated in a way, which ensures that spillages of fuel, oil and similar contaminants are prevented, particularly during machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body such that any spillage can be contained so it does not enter any watercourse. All mixing of chemicals for construction purposes including grouts, additives and adhesive products shall be carried out outside the 2 year ARI floodplain area such that any spillage can be contained so it does not enter any watercourse. Provisions for being prepared for any spill shall be described in the Site Emergency Management Plan required by Condition 362.

Stormwater Treatment Devices

303. The following stormwater management works shall be constructed prior to discharges commencing from new impervious surfaces:

Table 6: Stormwater management works

Catchment	Works to be undertaken	Design standard
Landfill access road	Filter strips	New Zealand Transport Agency, Stormwater Treatment Standard for State Highway Infrastructure, May 2010'

Bin exchange area	Raingardens (x2)	Auckland Council GD01
Valley 1 (landfill catchment)	Wetland	Auckland Council GD01
Building roofing	No exposed unpainted metal surfaces	N/A
Workshop	Oil and grit interceptor (min 3,000L)	As per manufacturers design specification

304. The following stormwater management works shall be constructed:

Table 7: Stormwater management pond volumes

Pond	Minimum volume
Pond 2	15,600 m ³
Pond 3 (stages 1 and 2)	4,500 m ³
Pond 3 (stage 3 onwards)	24,400 m ³
Pond 4 (stages 1 to 6 only)	44,000 m ³
Pond 5 (stages 1 and 2 only)	8,700 m ³

305. The stormwater pond system for the landfill shall be designed to not exceed the following maximum rates of discharge from Pond 2:

- (a) 5.8 m³/s for the 2 year ARI;
- (b) 11.7 m³/s for the 10 year ARI; and
- (c) 21.9 m³/s for the 100 year ARI.

306. In the event that any minor modifications to the stormwater management system are required that will not result in an application pursuant to Section 127 of the RMA, the following information shall be provided:

- (a) Plans and drawings outlining the details of the modifications; and
- (b) Supporting information that details how the proposal does not affect the capacity or performance of the stormwater management system.

All information shall be submitted to, and confirmed within 5 working days by the Council, prior to implementation.

Advice Note: All proposed changes must be discussed with the Council, prior to implementation. Any changes to the proposal which will affect the capacity or performance of the stormwater management system or will result in a change to the conditions of this consent will require an application to Council pursuant to Section 127

of the RMA. An example of a minor modification can be a change to the location of a pipe or slight changes to the site layout. If there is a change of device type (even proprietary), the consent will have to be varied (pursuant to Section 127 of the RMA).

307. At least 20 working days prior to construction of the proposed stormwater systems and treatment devices, the Consent Holder shall submit a design report, including detailed engineering drawings, specifications, and calculations for the stormwater treatment devices, to achieve the requirements in conditions 303 to 306. The details shall include:
- (a) Confirmation that the design achieves the requirements of Conditions 303 to 306;
 - (b) Contributing catchment size and boundaries and impervious percentage;
 - (c) Specific design and location of stormwater treatment devices; and
 - (d) Supporting calculations for stormwater treatment devices, including capacity and suspended solids removal efficiency.

Pre and post Construction Meetings

308. A pre-construction meeting shall be held by the consent holder, prior to commencement of the construction of any stormwater devices onsite, that:
- (a) Is arranged five working days prior to initiation of the construction of any stormwater devices on the site;
 - (b) Is located on the subject area;
 - (c) Includes representation from the Council; and
 - (d) Includes representation from the site stormwater engineer, contractors who will undertake the works and any other relevant parties.
309. The following information shall be made available prior to, or at the pre-construction meeting:
- (a) Timeframes for key stages of the works authorised under this consent;
 - (b) Erosion and sediment control measures during construction;
 - (c) Contact details of the site contractor and site stormwater engineer; and
 - (d) Construction plans, including design details of the stormwater devices, approved (signed/stamped) by an Auckland Council Development Engineer.
310. A post-construction meeting shall be held by the Consent Holder, within 20 working days of completion of the stormwater management works, that:
- (a) Is located on the subject area;

- (b) Includes representation from the Council; and
- (c) Includes representation from the site stormwater engineer, contractors who have undertaken the works and any other relevant parties.

Advice Note: To arrange the construction meetings required by this consent, please contact the Council on 09 301 0101 or monitoring@aucklandcouncil.govt.nz

As-Built Plans

- 311. As-Built certification and plans of the stormwater management works, which are certified (signed) by a Suitably Qualified Experienced Person as a true record of the stormwater management system, shall be provided to the Council for information within 30 days of completion of the stormwater management works set out in Conditions 303 to 306.
- 312. The As-Built plans shall display the entirety of the stormwater management system, and shall include:
 - (a) The surveyed location (to the nearest 0.1m) and level (to the nearest 0.01m) of the stormwater management devices, with co-ordinates expressed in terms of NZTM and LINZ datum;
 - (b) Plans and cross sections of all stormwater management devices, including confirmation of any storage volumes and levels of any outflow control structure;
 - (c) The surveyed locations of all stormwater devices installed for the management of stormwater discharges to ground shall be measured to the nearest 0.1 metre with coordinates expressed in terms of NZTM;
 - (d) Documentation of any discrepancies between the design plans and the As-Built plans.
- 313. All structures authorised by this consent including earth fill dams, stormwater ponds, spillways, pipes and permanent erosion protection shall be maintained by the consent holder to ensure that they perform at all times to the standards specified in this consent.

Stormwater pond monitoring

- 314. The Consent Holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the outlet from Pond 1 (the wetland) for turbidity (NTU).
- 315. Stormwater discharged from Pond 1 to the tributary of the Hōteō River shall contain no more than an average of 30 g/m³ of suspended solids in 95% of samples in any consecutive twelve month period, where one sample is one half-hourly reading in NTU units of a nephelometric turbidity meter converted to its equivalent reading in g/m³ units of suspended solids.

316. If continuous monitoring results obtained at the Pond 1 outlet show turbidity has exceeded the 95th Percentile value based on the previous four years of monitoring data at Site SW3, the Consent Holder shall undertake an investigation into the sources of the elevated levels, determine what additional controls could be used, and level of effects attributable to the discharge in the immediate downstream environment. Within one month of the exceedance, the Consent Holder shall provide a report to Council outlining the duration and nature of any discharges which exceeded the upper trigger level, and the proposed measures to be adopted in response to the exceedance.
317. The Consent Holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the inlet flow to the first stormwater pond to be reached by landfill run-off immediately downstream from the landfill for electrical conductivity (mS/m).
318. The Consent Holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the discharge from the outlet of Pond 1 for the following:
- (a) Flow rate (L/min);
 - (b) Electrical conductivity (mS/m);
 - (c) Turbidity (NTU); and
 - (d) Temperature (°C).
319. If continuous monitoring results obtained at the Pond 1 outlet show electrical conductivity has exceeded the approved trigger level, then a grab sample of the stormwater shall be taken as soon as practicable at the point of discharge (outlet) and analysed for the following parameters at the timeframes specified in the Landfill Management Plan:
- (a) Temperature (°C);
 - (b) pH;
 - (c) Total Ammoniacal Nitrogen (gN/m³);
 - (d) COD (gO₂/m³);
 - (e) Semi Volatile Organic Compounds (SVOCs) (g/m³);
 - (f) Volatile Organic Compounds (VOCs) (g/m³); and
 - (g) Chloride (gCl/m³).
320. If the results of samples obtained from stormwater pond system inlet and outlet in accordance with Conditions 314 to 317 and tested for the parameters listed in Conditions 318 and 319 show that leachate contamination or other pollutants associated with the Consent Holder's operations is occurring (as defined in the

Stormwater Monitoring and Contingency Plan (SMCP) required by Condition 375), then discharge from the stormwater ponds outlet shall immediately. The following shall then occur:

- (a) Further testing of the stormwater shall be undertaken to characterise the contamination;
- (b) Downstream testing shall be conducted to determine whether any contamination has been discharged from or escaped the stormwater ponds;
- (c) An investigation shall be undertaken to determine the source of the contamination;
- (d) Measures shall be put into place to prevent further contamination; and
- (e) Discharges of stormwater from the relevant treatment device shall not recommence until electrical conductivity at the point of discharge no longer indicates that contamination is occurring.

321. Where any leachate contamination or other pollutants associated with the Consent Holder's operations escapes to a natural surface water body, the Consent Holder shall:

- (a) Undertake appropriate remedial action immediately as prescribed in the SMCP; and
- (b) Immediately notify the Council of the escape of leachate or other pollutants.

Subsoil drainage monitoring

322. Subsoil drainage beneath the lining system shall be maintained and operated permanently throughout the life of the landfill and the approved aftercare period.

323. The consent holder shall continuously ("continuously" shall mean at intervals of not more than 30 minutes) monitor the discharge from the subsoil drains beneath the lining system for electrical conductivity (mS/m).

324. If continuous monitoring results obtained at the subsoil drainage outlet indicate electrical conductivity has exceeded the approved trigger level, then a grab sample of the subsoil drainage shall be taken at the outlet and analysed for the following parameters:

- (a) Electrical conductivity (mS/m);
- (b) Temperature (°C);
- (c) pH
- (d) Total Ammoniacal Nitrogen (g/N/m³);
- (e) COD (gO₂/m³); and

- (f) Chloride (gCl/m³).
325. The Consent Holder shall sample the discharge from the subsoil drains beneath the lining system on a quarterly basis for the following:
- (a) Temperature (°C);
 - (b) pH; and
 - (c) Total Ammoniacal Nitrogen (gN/m³);
 - (d) COD (gN/m³); and
 - (e) Chloride (gCl/m³).
326. If the results of samples obtained from the subsoil drains in accordance with Condition 323 and tested for the parameters listed in Condition 324 show that leachate contamination is occurring (as defined in the Groundwater Monitoring and Contingency Plan (GWMCP) required by Condition 382), then discharge from the subsoil drains to the stormwater ponds outlet shall be ceased immediately, and all discharge from the drains shall be captured and treated as leachate. The following shall then occur:
- (a) Further testing of the water shall be undertaken to characterise the contamination;
 - (b) Downstream testing shall be conducted to determine whether any contamination has been discharged from or escaped the stormwater ponds;
 - (c) An investigation shall be undertaken to determine the source of the contamination;
 - (d) If it is determined that leachate is present in the subsoil drainage then groundwater samples shall be collected from the monitoring locations immediately surrounding the ARL. These samples shall be tested for leachate indicators set out in the GWMCP;
 - (e) If leachate is detected in groundwater above the groundwater trigger levels then mitigation measures set out in the GWMCP shall be implemented;
 - (f) Measures shall also be put into place to avoid further contamination entering the subsoil drains system and/or being released to environment; and
 - (g) Discharges of water from subsoil drains to the stormwater ponds shall not recommence until all leachate indicator parameters at the point of discharge from the subsoil drains no longer indicates that contamination is occurring.

Groundwater monitoring after landfill commencement

327. The existing groundwater monitoring bores on the site listed in Table 1 above, and repeated in Table 8 as shown on the Groundwater Monitoring and Contingency Plan

Monitoring Locations dated December 2020, rev 1 are to be maintained to ensure ongoing monitoring data is obtainable. Should any of the monitoring bores be damaged or become in-operable, then a replacement monitoring bore, to the same depth or greater, is to be drilled at a nearby location in consultation with Council.

Table 8: Groundwater monitoring locations (post landfill commencement)

Reference	Groundwater level	Groundwater chemistry
BH1	*	
BH2	*	
BH3	*	*
BH4	*	
BH5	*	*
BH6	*	*
BH7	*	*
BH8	*	*
BH13	*	*
BH14	*	*
BH15 (until removed for landfill footprint)	* (VWPs)	
TB01 (potable)		*
BH16 (downstream from landfill footprint in the direction of Watercare's well)(vicinity of toe of the landfill in Valley 1)	*	*
BH18 (downstream from landfill footprint in the direction of Watercare's well)(vicinity of Spindler Road)	*	*
BH17 (south of landfill footprint on the ridgeline)	*	*
BH19 (down-gradient of pond 3, shallow depth)	*	*
BH20 (baseflow effects in Upper Waiteraire Tributary Catchment)	*	*
BH21 (down-gradient of wetland discharge, shallow depth)	*	*

BH22 (south west of footprint)	*	*
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328. The list in Table 8 includes the following additional wells that are to be drilled prior to landfill commencement:
- (a) Two wells immediately downgradient of the foot of the landfill (BH16 and BH19);
 - (b) One well downgradient of the wetland discharge (BH21);
 - (c) Three wells to the south and south west of the landfill (BH17, BH20 and BH22); and
 - (d) One well located close to the existing airfield, between the landfill footprint and the future Watercare Services Ltd groundwater take BH18). This location shall be agreed in consultation with Watercare Services Ltd.
329. The parameters for groundwater chemistry analysis after landfill commencement shall be as listed in Table 9 below:

Table 9: Groundwater monitoring parameters (post landfill commencement)

PARAMETER	UNITS	Quarterly sampling	Annual sampling
Temperature	°C	Y	Y
Sodium	g Na/m ³		Y
pH			Y
Chloride	g Cl/m ³	Y	Y
Conductivity	mS/m	Y	Y
Potassium	g K/m ³		Y
Total Ammoniacal Nitrogen	g N/m ³	Y	Y
Total Hardness	g CaCO ₃ /m ³		Y
Zinc (soluble)	g Zn/m ³	Y	Y
Manganese (soluble)	g Mn/m ³		Y
COD	g O ₂ /m ³		Y
Arsenic (soluble)	g As/m ³	Y	Y
Copper (soluble)	g Cu/m ³	Y	Y
Lead (soluble)	g Pb/m ³	Y	Y
Nitrate Nitrogen	g N/m ³		Y
Sulphate	g SO ₄ /m ³		Y
Alkalinity	g CaCO ₃ /m ³		Y
Boron	g B/m ³	Y	Y

Nickel (soluble)	g Ni/m ³	Y	Y
Calcium	g Ca/m ³		Y
Iron (soluble)	g Fe/m ³		Y
Magnesium (soluble)	g Mg/m ³		Y
Cadmium (soluble)	g Cd/m ³	Y	Y
Chromium (soluble)	g Cr/m ³	Y	Y
Semi Volatile Organic Compounds	g/m ³		Y
Total Petroleum Hydrocarbons	g/m ³		Y
Polycyclic Aromatic Hydrocarbons	g/m ³		Y

330. Groundwater shall be monitored on a quarterly basis or at a lesser frequency (greater intervals between readings) acceptable to Council but no less frequent than six-monthly from the landfill commencement date in accordance with the Groundwater Monitoring and Contingency Plan (GWMCP) required by Condition 382.
331. Should groundwater monitoring results identify leachate contamination as defined in the GWMCP (condition 382), then the consent holder shall immediately notify Watercare Services Limited (WSL) and Council.
332. Within five (5) working days of receipt of sample results showing contaminants exceeding the agreed trigger levels:
- (a) An investigation shall be undertaken to determine why exceedances were detected and to identify any additional source controls or treatment required; and
 - (b) Any additional structural or procedural controls, including increased monitoring frequency or parameters proposed by the Consent Holder shall be submitted to the Council for certification prior to their implementation.
333. If two or more groundwater quality exceedances of any two or more pollutant indicator parameters at any one well are recorded within a rolling 12 month period, the Consent Holder shall engage a suitably qualified independent reviewer to review the response to recurring exceedances of trigger levels, and to provide recommendations to the consent holder and Auckland Council.

Groundwater take from potable supply bore TB01

334. The daily abstraction shall not exceed 50m³. The total volume of water abstracted in each 12 month period, commencing 1 July of any year and ending 30 June of the following year, shall not exceed 18,250m³.

Installation of water meter:

335. Prior to exercise of this consent, a water meter with an electronic pulse output shall be installed and maintained at the outlet of the pump to the groundwater take bore to the satisfaction of Council. The water meter shall:
- (a) Be fit for the purpose and water it is measuring;
 - (b) Measure the volume of water taken, with an accuracy of +/- 5% of the actual volume taken;
 - (c) Be tamper-proof and sealed; and
 - (d) Be installed and maintained in accordance with the manufacturer's specifications.

Verification of Water Meter/device accuracy

336. The water meter for the groundwater take shall be verified as accurate by a suitably qualified professional at the following times:
337. Prior to the exercise of this consent;
- (a) Within five (5) working days of the water meter being serviced or replaced;
 - (b) By 30 June of the fifth year from the commencement of consent, and thereafter at five yearly intervals.
338. The water meter, its verification and evidence of its accuracy shall be in accordance with the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 (or any equivalent regulations that may replace them) and a copy of the verification shall be provided to Council within 10 working days of the meter/devices being verified as accurate.
339. Provision at the top of the bore for water level measurements shall be made and maintained so that a probe can be lowered vertically into the bore between the riser tube and casing to measure the static water level in the bore
340. Provision at the top of the bore for water quality sampling shall be made and maintained so that a sample of water can be taken from the bore for water quality analysis. A tap or hand valve shall be fitted as close to the pump outlet as possible and before the water enters any storage tank or filter. The tap or valve should have at least 0.3 metre clearance above ground level or any other obstruction to allow a sample bottle to be filled.
341. The method of monitoring of the groundwater take from the bore shall be described in the Groundwater Monitoring and Contingency Plan required by Condition 382.

Water meter readings

342. A water meter reading shall be taken at daily intervals consistently at one of these times:

- (a) before pumping starts for a day; and
- (b) at the end of pumping for a day.

The date and the water meter reading shall be recorded and provided to the council in accordance with the reporting condition below.

Advice Note: If no water is taken during any period the current meter reading must still be recorded.

Water reporting

343. The following information shall be entered, at the frequency and date specified, to the council's Water Use Data Management System or to any replacement database identified in writing by Council.

Information	Due Dates for reporting
Water use water meter reading and date.	Quarterly

Advice Note: The web address for council's on-line Water Use Data Management System is: <http://aklc.hydrotel.co.nz/hydrotel/cgi-bin/WudmsWebServer.cgi>

Your WUDMS customer number is P 2650636705 and the password is 1234. For the link to work properly you need to ensure that Council has your up-to-date email address for contact purposes. An on-line manual explaining how to enter and submit your water readings is available at the web address specified above.

Review Condition

344. Pursuant to Section 128 of the RMA, the conditions of this consent may be reviewed by Council at the Consent Holder's cost in June 2024, and subsequently at intervals of not less than five years thereafter in order:

- (a) To deal with any adverse effect on the environment which may arise or potentially arise from the exercise of this consent and which it is appropriate to deal with at a later stage, in particular adverse effects on stream flow and stream water quality.
- (b) To vary the quantities, monitoring, operating and reporting requirements and performance standards in order to take account of information, including the results of previous monitoring and changed environmental knowledge, on: water availability, including alternative water sources; actual and potential water use; stream water flow and level regimes; stream water quality; efficiency of water

use; Instream biota, including fish passage and the functioning of aquatic ecosystems; and the relationship of Maori with water.

Advice Note: Under section 128 of the RMA the conditions of this consent may be reviewed by Council at the consent holder's cost in the following circumstances:

- (a) *To provide compliance with rules in any regional plan relating to use of water, water or air quality etc. (refer section 128(1) (b) of the RMA) that have been made operative since the commencement of consent.*
- (b) *To provide compliance with any relevant national environmental standard that has been made since the commencement of consent.*
- (c) *At any time, if it is found that the information made available to the council in the application contained inaccuracies which materially influenced the decision and the effects of the exercise of the consent are such that it is necessary to apply more appropriate conditions.*

Fire Fighting Water Supply

- 345. Upon completion of the construction of the site buildings, sufficient water volume, pressure and flows shall be provided for those buildings in accordance with NZFS Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008.
- 346. If the water supply in reference to any site building is to be provided by way of tank storage, this tank storage should be located between 5m and 90m away from the building in accordance with NZFS Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008, unless otherwise agreed in writing with Fire and Emergency New Zealand. Any tank used for the storage of fire fighting water supplies is to be fitted with a 100 mm female round thread suction hose adaptor in accordance with the NZFS Specification for Firefighting Waterway Equipment SNZ PAS 4505:2007.

Dust and tracking

- 347. Wheel washing facilities shall be provided and shall be used by all vehicles that have travelled off the sealed road and hardstand areas, prior to the vehicle departing the site in any instance where there is potential for mud to be tracked out onto State Highway 1.
- 348. All vehicle exits from the site onto State Highway 1 shall be cleaned as necessary.

Environmental reporting

- 349. An Annual Report evaluating the site's environmental performance for the preceding year shall be forwarded annually to Council from a date that is within 12 months from the landfill commencement date, and thereafter annually.

Advice Note: The month of submission of the Annual Report shall be agreed with Council.

350. The Annual Report shall include but not be limited to:
- (a) All aspects of the performance of ITAMP, and LMCP (Conditions 368 and 387) relating to this consent;
 - (b) A summary of all revisions and revised sections of the ITAMP and LMCP;
 - (c) Summary details of all inspections and maintenance of the stormwater treatment devices for the preceding 12 months;
 - (d) Details of the person(s) or body responsible for maintenance of site and the organisation's structure supporting this process;
 - (e) Results of the preceding 12 months' stormwater, surface water, subsoil drainage, leachate and groundwater monitoring, along with an interpretation of those results and suggestions for improvement to the site operations;
 - (f) Results and analysis of less frequent macroinvertebrate, periphyton and macrophyte monitoring whenever that monitoring has been carried out in the previous 12 months; and
 - (g) Summaries of any spills or incidents which occurred within the previous 12 months and the response which was undertaken.

Surface water take from stormwater ponds

351. The take and use of surface water from the impoundments of three on-stream stormwater detention dams located on tributary number 457405 of the Hōteo River at map references 1741683 mE 5978064 mN (dam no.4), 1741471 mE 5978165 mN (dam no.3) and 1741440 mE 5978305 mN (dam no.2) on land legally described as Middle and North Western Part Allotment 15 Parish of Hōteo (CT NA1149/48), and Allotment North Middle 15 Parish of Hōteo (CT NA643/294) at 1232 State Highway 1, Wayby Valley, Warkworth for dust suppression, road washing, wheel wash and other non-potable water use for landfill purposes on land at 1232 State Highway 1, Wayby Valley, Warkworth shall be carried out in accordance with the plans and all information submitted with the application, and all referenced by Council as consent number WAT60339673.
352. The abstraction shall comply with the following:
- (a) The total daily abstraction shall not exceed 150 cubic metres; and
 - (b) The total volume of water abstracted in each 12-month period, commencing 1 July of any year and ending 30 June of the following year, shall not exceed 54,750 cubic metres.

Baseflow monitoring in neighbouring catchments

353. At least four (4) years prior to Initial Site Construction works commencing, a Baseflow Monitoring Programme shall be developed and submitted to Council for certification.

The purpose of the Baseflow Monitoring Programme shall be to monitor the flow regime within the main stream and selected tributaries of Valley 2 and the Upper Waiteraire Tributary, that may be affected by a change in groundwater level (this includes specifically tributaries on the southern side of Valley 2 and the reaches described as in the Upper Waiteraire Tributary Block). The Baseflow Monitoring Programme shall:

- (a) Establish a monitoring methodology to provide sufficient details to understand the baseline flow regime and against which to measure change in flow regime;
- (b) Be undertaken prior to construction, during construction and operation and during the aftercare period;
- (c) Include monitoring to consist of continuous stream levels and quarterly streamflows at the locations in Table 10:

Table 10: Baseflow monitoring locations

Reference	Streamflow	Stream water level
SF1 (Base of Valley 2)	*	*
SF2 (Downstream of Valley1 and 2 confluence)	*	*
SF3 (Base of Upper Waiteraire Stream tributary)	*	*

- (d) Continue groundwater level baseline monitoring in the existing wells and proposed new well (referred to as BH20 in conditions set);
- (e) Identify the likely intermittent/ephemeral stream transition points on a nominated representative tributary within Valley 2 the Upper Waiteraire Tributary;
- (f) Establish correlations between permanent streamflows in the Valley 2 stream and the long term Waiwhiu record to calculate the flow statistics;
- (g) Establish correlations between permanent streamflows in the tributary to the Waiteraire Stream and the long term Waiwhiu record to calculate the flow statistics;
- (h) Establish correlations between permanent streamflows and groundwater levels around Valley 1 and Valley 2;
- (i) Establish trigger/action levels to the satisfaction of Auckland Council from the baseline monitoring data;
- (j) Provide an adaptive management approach to address potential effects on intermittent and permanent streams in the future from the ARL construction; and

- (k) Outline the likely means by which compensation flows could be provided, if required.

Downstream flow regime management

- 354. Compensation flows shall be provided at the downstream point of the wetland discharge, downstream of the permanent stormwater ponds, to maintain 85% of the Mean Annual Low Flow (MALF) within the Eastern Stream, in accordance with the flow regime management framework required by condition 355.
- 355. A flow regime management framework shall be prepared and submitted to Council for certification at least one month prior to construction of the permanent stormwater ponds. The flow regime management framework shall set out:
 - (a) The methods by which the flow regime has been quantified (in accordance with Baseflow monitoring provisions in condition 353);
 - (b) The compensation flow required to achieve 85% MALF;
 - (c) The circumstances in which compensation flows are required; and
 - (d) How compensation flows will be provided.

PART F - LANDFILL MANAGEMENT PLAN

356. The Consent Holder shall develop and implement an overall Landfill Management Plan (LMP) for the duration of this consent. At least one printed copy of the LMP shall be held on site at all times. The overall objective of the LMP shall be to set out the practices and procedures to be adopted to achieve compliance with the conditions of consent.
357. At least six months prior to the landfill commencement date (acceptance of waste at the site), the LMP shall be submitted to the PRP for review and expert commentary on the matters for which they have oversight under this consent. All recommendations of the PRP shall be considered by the Consent Holder and the revised LMP and PRP's commentary shall be submitted to Council for certification, to confirm that the activities undertaken in accordance with the LMP will achieve the objectives of the LMP and compliance with the relevant consent conditions.
358. The LMP shall address how the following matters will meet any requirements, limits or restrictions set out by the consent conditions:
- (a) The stages and order of landfill development;
 - (b) Construction and testing of the lining system;
 - (c) Gas, leachate and water management and monitoring;
 - (d) Types of waste to be accepted and those that are prohibited;
 - (e) Waste acceptance control and methodology of monitoring types of refuse accepted;
 - (f) Sampling methodology for special wastes, including differentiation between routine, consistent, and well-characterised waste and variable waste sources;
 - (g) Methods of placing refuse;
 - (h) Methods of handling special wastes;
 - (i) Landfill working face and cover management;
 - (j) Noise and vibration management;
 - (k) Nuisance control procedures;
 - (l) Pest and weed control;
 - (m) Monitoring procedures;
 - (n) Emergency procedures;

- (o) Contingency plans;
 - (p) Odour management;
 - (q) Monitoring and maintenance of the Landfill gas collection system, generators, flares and low-temperature leachate evaporator;
 - (r) Complaints response procedure;
 - (s) Record-keeping;
 - (t) Emergency management and response measures;
 - (u) Traffic management with reference to vehicle movements to and from State Highway 1;
 - (v) Final post settlement height, shape and contours of the land, in accordance with the plans;
 - (w) List of items to be completed prior to each stage including prior to landfill commencement date;
 - (x) Maintenance, including defects replacement, for areas of mitigation planting; and
 - (y) After-care;
359. The LMP shall also include the subordinate management plans listed in Table 3. The LMP, when certified by Council, shall be adhered to at all times.
360. The LMP shall be subject to review annually from the date the landfill commencement date (unless the requirement for review is waived by Council), such review to include assessment of the performance of the practices and procedures specified in it. Any amendment required by Council arising out of this review or requested by the PRP arising out of their role shall be incorporated into the LMP without delay and submitted to the PRP for review on the matters for which they have oversight under this consent and Council for certification that the LMP meets the requirements of Condition 358. The Consent Holder shall lodge a copy of the certified LMP with Council, PRP, CLC and MWR and a hard copy shall be made available at the Landfill during office hours. Council may waive the annual review requirement for that year if no amendments are required by the PRP and Council.

Bin Exchange Area Management Plan

361. The Consent Holder shall prepare and maintain a Bin Exchange Area Management Plan (BEAMP) and submit it to Council for certification. The BEAMP shall describe the operations of the bin exchange area, including demonstrating how compliance with the conditions of this consent will be achieved. The plan shall include (if appropriate by way of reference to other plans described in these conditions):

- (a) Methods for recording time of bin arrival and exit from the bin exchange to ensure that bins containing waste will be taken to landfill within 2 working days;
- (b) Measures to control and manage the bin exchange area in the event of a forecast extreme weather event;
- (c) Controls on traffic movements into and out of the bin exchange area, including measures to restrict public/non-permitted access to the bin area (and means to direct public/non-permitted users back to the public road State Highway 1);
- (d) Processes to prevent queuing onto State Highway 1 from the Bin Exchange Area and actions to be implemented should any queuing generated by the Bin Exchange Area extend onto Landfill Access Road, to ensure queuing onto State Highway 1 is avoided;
- (e) Measures to manage noise in the area, including restrictions on reversing alarms;
- (f) Appropriate cross references to measures in other management plans applying to the Bin Exchange Area; and
- (g) Methods to confirm bins are sealed and contained.

Site Emergency Management Plan

362. The Consent Holder shall prepare and maintain a Site Emergency Management Plan (SEMP), as part of the Landfill Management Plan. The SEMP shall be provided to Council for certification as part of the LMP certification process. Advice of the existence of this Plan, and information on how to obtain a copy, shall be provided by the Consent Holder to the Council and other appropriate organisations such as Fire and Emergency New Zealand and the Auckland Regional Public Health Service. The SEMP shall include procedures to manage the risk from and contingency measures for:

- (a) Landfill fire;
- (b) Wildfire;
- (c) Forecast extreme weather event; and
- (d) Flooding.

Landfill Gas Management Plan

363. The Consent Holder shall maintain a Landfill Gas Management Plan (LGMP), as part of the Landfill Management Plan. The LGMP shall be provided to Council for certification as part of the LMP certification process. The purpose of the LGMP is to record all management and operations procedures, methodologies, and contingency and emergency plans necessary to comply with the conditions of this consent. The LGMP shall include the following information:

- (a) Landfill Gas System – Design and Construction;
 - (b) Landfill Gas System – Operation;
 - (c) Landfill Gas Monitoring;
 - (d) Landfill Gas Contingency; and
 - (e) Landfill Gas Management System monitoring and maintenance measures
364. The LGMP shall include measures to monitor for elevated temperatures and provide trigger levels and contingency actions. The measurements shall include monitoring the CH₄:CO₂ ratio and landfill gas temperatures, with CH₄:CO₂ ratio of <0.6 being the trigger to investigate any higher temperatures, possible causes and possible remedial works.

Erosion and Sediment Control Plan - Landfill Operations

365. An Operational Erosion and Sediment Control Plan (ESCPO) shall be prepared by a suitably qualified person in general accordance with Auckland Council Guideline GD05, Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region, and submitted to Auckland Council for certification. The purpose of the ESCPO is to set out the measures to be implemented to minimise erosion and the discharge of sediment to receiving water bodies after the landfill commencement date.
366. The ESCPO shall include the following information as appropriate to the scale, location and type of earthworks:
- (a) Drawings showing location and quantities of earthworks, contour information, catchment boundaries and erosion and sediment controls (location, dimensions, capacity);
 - (b) The location of erosion and sediment controls including their position in relation to flood plains and how flood risk will be managed;
 - (c) Supporting calculations for erosion and sediment controls;
 - (d) Catchment boundaries and contour information;
 - (e) Details of construction methods to be employed, including timing and duration;
 - (f) Dewatering and pumping methodology (if applicable);
 - (g) Details of the proposed water treatment devices;
 - (h) A programme for managing exposed area, including staging detail and progressive stabilisation considerations;
 - (i) The location of site entrance points and means to control tracking of sediment off-site;

- (j) The details for decommissioning controls;
 - (k) Key responsibilities for implementing and maintaining the controls detailed in the SSES CP during the project;
 - (l) Monitoring, maintenance and record-keeping requirements; and
 - (m) Updated USLE calculations and estimated sediment loads to ensure consistency with the application documents.
367. Prior to 1 October every year throughout the operation of the landfill, the Consent Holder shall undertake an annual review of the ESCPO and re-submit for certification to Council. The ESCPO shall detail if works are proposed in a new area of the landholding or to re-disturb an area which has been vegetated on a temporary basis, any changes to the proposed erosion and sediment controls, and any changes to incorporate updates in industry best practice.

Industrial and Trade Activities Management Plan

368. The Consent Holder shall prepare and submit a Stormwater and Industrial and Trade Activities Management Plan(s) (ITAMP) to Council for certification. The purpose of the ITAMP is to set out the Best Practicable Option (BPO) approach to avoid, remedy or mitigate potential adverse effects arising from stormwater management and the ITAs on site, including treatment devices, operational procedures and management systems.
369. The ITAMP shall include the following:
- (a) Site activities, layout and drainage plans, including an up-to-date and accurate site drainage plan showing the location of all stormwater treatment devices on site and the final discharge point(s) of the site stormwater system;
 - (b) Identification of potential contaminants associated with the activities conducted on the site(s), methods to avoid, control and treat discharges of these from the site(s), and methods to manage environmental risks from site activities as far as practicable;
 - (c) Identification of hazardous substances on site;
 - (d) An emergency Spill Response Plan (SRP) (which includes the provision that all spills over 20 litres, or any spill of Environmentally Hazardous Substances that has entered the stormwater system, a water-body or has contacted unsealed ground, shall be reported immediately to the Council's 24 Hour Pollution Hotline (09-377-3107)) or reference to a SRP contained in the SEMP;
 - (e) Operation and maintenance procedures for treatment devices, or cross-reference to the SSOMP required by Condition 371 if it contains this information;
 - (f) Roles and responsibilities associated with the ITAMP;

- (g) Methods for providing and recording staff training on the ITAMP;
 - (h) Stormwater Monitoring and Contingency Plan (SMCP) (as described in Condition 375);
 - (i) A Stormwater System Operation and Maintenance Plan (SSOMP) (as described in Condition 371);
 - (j) A programme for auditing site performance against the ITAMP provisions; and
 - (k) Reporting and review of the ITAMP.
370. The site shall be operated and managed in accordance with the ITAMP to ensure the risks to surface water quality from the site are managed appropriately.

Stormwater Operation and Maintenance Plan

371. A Stormwater System Operation and Maintenance Plan (SSOMP) shall be provided to Council for certification at least three months prior to Industrial and Trade Activities occurring on site. The SSOMP shall set out how the stormwater management system is to be operated and maintained so that adverse environmental effects are minimised or mitigated. The plan shall include:
- (a) Details of who will hold responsibility for maintenance of the stormwater management system and the organisational structure which will support this process;
 - (b) A monitoring programme to determine maintenance frequency;
 - (c) A programme for regular maintenance and inspection of the stormwater management system;
 - (d) A programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices;
 - (e) A programme for post storm inspection and maintenance;
 - (f) A programme for inspection and maintenance of the outfalls; and
 - (g) General inspection checklists for all aspects of the stormwater management system, including visual check.
372. The stormwater system shall be managed in accordance with the certified Stormwater System Operation and Maintenance Plan.
373. Details of all inspections and maintenance for the stormwater system, for the preceding three years, shall be retained, and shall be provided to Council on request, including:
- (a) Details of who is responsible for maintenance of the stormwater management system and the organisational structure supporting this process;

- (b) Details of any maintenance undertaken; and
 - (c) Details of any inspections completed.
374. A final updated Stormwater System Operation and Maintenance Plan shall be submitted to Council for certification before the landfill commencement date.

Stormwater Monitoring and Contingency Plan

375. At least 90 days prior to the commencement date, a final Stormwater Monitoring and Contingency Plan (SMCP), incorporating a Stormwater Monitoring Programme (SMP), to assess the ongoing adequacy of all water quality management practices shall be developed and submitted to Council for certification.
376. The SMCP shall include, but not be limited to:
- (a) Sampling location for final discharge from the site stormwater treatment device outlets;
 - (b) Sampling locations from the surface water bodies within the site;
 - (c) Methods and procedures for water quality sampling;
 - (d) Monitoring parameters for analysis from the stormwater discharge points on a fortnightly basis and shall include:
 - (i) pH;
 - (ii) Temperature (°C);
 - (iii) Total Suspended Solids (TSS) (mg/L);
 - (iv) Alkalinity (gCaCO₃/m³);
 - (v) Chloride (gCl/ m³);
 - (vi) Total ammonical Nitrogen (gN/ m³);
 - (vii) Electrical Conductivity (EC) (mS/m); and
 - (viii) Dissolved Oxygen (gO/ m³).
 - (e) Monitoring parameters for analysis from the stormwater pond discharges and the receiving water downstream on a quarterly basis and shall include:
 - (i) Temperature (°C);
 - (ii) Heavy metals (dissolved trace including Aluminium, Zinc, Arsenic, Cadmium, Chromium, Nickel, Lead and Copper) (mg/L);
 - (iii) Nitrate – N (mg/L);

- (iv) Total Phenols (mg/L);
 - (v) Ammonia (mg/L);
 - (vi) Total Hardness;
 - (vii) Total (Aluminium, Calcium, Iron, Magnesium, Potassium, Sodium, Chloride and Sulphate (mg/L);
 - (viii) Total Phosphorus (mg/L);
 - (ix) Total Boron (mg/L);
 - (x) Oil & grease (mg/L);
 - (xi) Chemical Oxygen Demand (COD) (gO_2/m^3); and
 - (xii) Total petroleum hydrocarbons (mg/L).
- (f) Sampling location for discharges from the site wheel wash pond;
- (g) Monitoring parameters for analysis from the wheel wash pond shall include:
- (i) pH (mg/L);
 - (ii) Total suspended solids (TSS) (mg/L);
 - (iii) Electric conductivity (mS/m);
 - (iv) Oil and grease (mg/L);
 - (v) Temperature ($^{\circ}\text{C}$); and
 - (vi) Total ammoniacal nitrogen ($\text{g N}/\text{m}^3$).
- (h) Monitoring of macroinvertebrates and of periphyton and macrophytes, which shall occur annually for the first 3 years of the landfill's operation, and then on a bi-annual basis;
- (i) Trigger levels for each of the above parameters in clauses (d) and (e) based on the relevant ANZECC Guidelines values, the baseline monitoring results, and the concentrations measured upstream prior to mixing; and
- (j) The methods and procedures for investigating and reporting stormwater discharge monitoring results to Council.

Table 11: Monitoring locations for SMCP

Reference	Macroinvertebrates, periphyton and macrophytes	Surface water chemistry
MC1	*	
MC2	(as required for investigation)	
MC3	*	
MC4	*	
MC5	*	
MC6	*	
SW1		*
SW3		*
SW4		*
SW5 (discharge from bin exchange area)		*

377. The SMCP shall be implemented from the landfill commencement date.
378. Within 5 working days of receipt of sample results showing contaminants exceeding the agreed trigger levels:
- (a) An investigation shall be undertaken to determine why exceedances were detected and to identify any additional source controls or treatment required;
 - (b) The results of the investigation shall be reported to Auckland Council; and
 - (c) Any additional structural or procedural controls proposed by the consent holder shall be approved by Auckland Council, in writing prior to their implementation.
379. An annual report evaluating the site's environmental performance for the year to date shall be forwarded annually to the Council from the first placement of refuse.
380. The Annual Report shall include but not be limited to:
- (a) All aspects of the performance of the Industrial and Trade Activities Environmental Management Plan relating to this consent;
 - (b) A summary of all revisions and revised sections of the Industrial and Trade Activities Environmental Management Plan;
 - (c) Details of all inspections and maintenance of the stormwater system for the preceding 12 months;
 - (d) Details of and changes to the person(s) or body responsible for maintenance of site and the organisations structure supporting the process;

- (e) Results and analysis of the preceding 12 months stormwater monitoring, along with an interpretation of those results and suggestions for improvement to the site operations; and
 - (f) Records of any spills or incidents which occurred within the previous 12 months and the response which was undertaken;
381. Within three months of the completion of the first three years of monitoring required by condition 376, a monitoring report shall be prepared which includes but not limited to:
- (a) A summary of the monitoring results to date;
 - (b) An interpretation of those results and suggestions for improvement to the site operations;
 - (c) A programme for on-going monitoring including the reporting of results; and
 - (d) A programme for the on-going maintenance of the stormwater management and treatment systems.

Groundwater Monitoring and Contingency Plan (GWMCP)

382. At least three months prior to the commencement date, a final Groundwater Monitoring and Contingency Plan (GWMCP), incorporating a Groundwater Monitoring Programme (GMP), to assess the ongoing adequacy of all water quality management practices shall be developed and submitted to Auckland Council for certification. At least 30 days prior to submission to Auckland Council for certification, the Consent Holder shall provide a copy of the draft GWMCP to the MWR and Watercare Services Limited (WSL) for feedback. The GWMCP submitted to Council shall record any feedback received from WSL and an explanation for any recommendations which have not been adopted. The GWMCP shall include, but not be limited to:
- (a) Up-gradient and down-gradient groundwater monitoring bore locations and details, in line with Table 8 above at Condition 327;
 - (b) Methods and procedures for water quality sampling;
 - (c) Ongoing monitoring of water levels and water quality parameters shall be detailed in the GWMCP;
 - (d) Identified trigger levels for each of the parameters provided in the GWMCP. Trigger levels for contaminants not included in the GWMCP shall be based on statistical margins from baseline results or based on a percentage of relevant guidelines;
 - (e) Guidelines for the determination of whether leachate contamination of groundwater is occurring;

- (f) Contingency plans for remedial actions should contamination of groundwater by leachate or other pollutants associated with the landfill and activities on the site associated with this consent be detected;
- (g) Stream baseflow monitoring in adjoining catchments, trigger levels for action and contingency response approach;
- (h) The methods and procedures for investigating and reporting groundwater monitoring results to Council; and
- (i) The response if a bore structure fails.

383. The GWMCP shall be implemented after the landfill commencement date.

Pest Control Plan – Landfill Operations

384. A Pest Control Plan - Landfill Operations (PCPO) shall be submitted to Council for certification at least three months prior to the landfill commencement date. The purpose of the PCPO is to control unwanted weeds, plant disease, vermin and predators that could be attracted to the operating landfill, and to prevent populations from being established.

Advice Note: This plan applies specifically to the landfill operational areas. The broader pest management for the project is described in conditions 102 – 110.

385. The PCPO shall include methods specifically for controlling rats, feral cats and seagulls within the landfill valley. Control methods for these pests may include physical controls such as fencing or traps, shooting or bait.

Advice Note: Appropriate control methods shall be selected to control red billed gulls to avoid killing or harming them.

386. The PCPO shall be implemented from the landfill commencement date to prevent pest populations from being established at the site, and form part of the LMP as set out in Conditions 356 to 360.

Leachate Monitoring and Contingency Plan

387. The Consent Holder shall provide a Leachate Monitoring and Contingency Plan (LMCP) for certification by Council at least three months prior to the landfill commencement date. The LMCP shall describe in greater detail proposals for water chemistry monitoring, detection limits, methods of analysis and units of measurement for all parameters listed in Conditions. The LMCP shall:

- (a) Include methods for managing the collection, treatment and disposal of leachate to manage potential adverse effects;
- (b) Specify methods for managing the collection of leachate, including pump out of sumps, regime of maintenance checks on integrity of pipes, and management of trucks to prevent spills;

- (c) Include methods for disposal of leachate and any by-products from leachate treatment, including any measures to manage the process and potential adverse effects;
- (d) Include detection limits, methods of analysis and units of measurement for all parameters;
- (e) Describe procedures for water chemistry, groundwater level and leachate level monitoring;
- (f) Specify the methods of analysis for samples taken in accordance with these special conditions;
- (g) Specify the units of measurement for reporting of analysis of water samples;
- (h) Specify the detection limits for analysis of water samples;
- (i) Summarise the results of baseline monitoring;
- (j) Summarise how the results of the leachate levels in the landfill will be compared to ground water levels outside the landfill;
- (k) Provide a definition of leachate contamination;
- (l) Contain guidelines for procedures to determine whether leachate contamination is occurring;
- (m) State the sources of the criteria and water quality standards used as a basis for the definition of leachate contamination;
- (n) Define the circumstances and times when notification to Council is required;
- (o) Procedures or systems will also be implemented to monitor and identify potential leachate breakouts or contamination of surface water including:
 - (i) Weekly inspections of the landfill surface to look out for any evidence of leachate breakouts and any malfunctioning or leaking associated with the reticulation system;
 - (ii) Continuous monitoring of conductivity at the inlet to the ponds as an indicator of the presence of leachate in surface water including automated notification from site operated telemetry system if pond inlet conductivity exceeds the trigger limits; and
 - (iii) Monitoring of contaminants at pond outlets.
- (p) Provide contingency plans for mitigation and remedial actions should leachate contamination occur.

388. The testing suite described in the LMCP is to include (but not limited to):

Table 12: Leachate monitoring

Quarterly (including annual)	Annual only
<p>Metals for which there are leachability limits ('Total' concentrations to be measured in the case of leachate):</p> <ul style="list-style-type: none"> • Arsenic • Boron • Cadmium • Copper • Chromium • Lead • Nickel • Mercury • Selenium • Zinc 	<p>Nitrate and nitrite</p> <p>BOD and COD</p> <p>PFAS, including PFOA</p> <p>Brominated flame retardants</p> <p>Volatile organic compounds, including:</p> <ul style="list-style-type: none"> • Benzene, toluene, ethylbenzene, xylenes • Chlorinated solvents <p>SVOC suite, including:</p> <ul style="list-style-type: none"> • Organochlorine pesticides, including DDT-compounds • Polycyclic aromatic hydrocarbons <p>Other compounds in NZ DWS suite:</p> <ul style="list-style-type: none"> • Antimony • Barium • Cyanide • Iron • Manganese • Molybdenum • Nickel • Selenium • Silver • Sodium • Potassium • Sulphate • 1,4-dioxane
<p>Other leachate quality parameters:</p> <ul style="list-style-type: none"> • pH • Ammonia • Conductivity • Potassium • Chloride • Sodium • Sulphide • Total petroleum hydrocarbons (TPH) • Temperature 	

Streamworks Methodology Management Plan - Seasonal Construction

389. Prior to any works within a specific stream or wetland commencing, a detailed Stream-and Wetland Works Methodology Management Plan (SWMMP) shall be prepared, submitted to, and certified by Council. The streamworks methodology shall include but is not limited to:

- (a) Methodologies and erosion and sediment control measures specific to the stream or wetland works being undertaken (providing location, dimensions, capacity, supporting calculations and design drawings) and confirmation that all controls are in accordance with industry best practice or the guidance contained in GD05, whichever higher standard is applicable;

- (b) Timing and duration of works (in relation to the staging and sequencing of both stream and wetland works and earthworks), including scheduling at times when normal (for the time of year) in-stream flows can be diverted around the works and a four-day weather forecast predicts no rainfall;
- (c) Reference and adherence (where applicable) to the Native Freshwater Fish and Fauna Management Plan required by condition (Condition 85);
- (d) Contingency plans and measures, including stabilisation of works areas over night or during rain;
- (e) Monitoring and maintenance requirements for the proposed erosion and sediment controls; and
- (f) Permanent stabilisation measures of stream bed and banks upon completion of the specific works.

Advice Note: The streamworks methodology may be submitted for the whole site or as a number of plans for specific works areas to allow for different methods within different areas and different timing/staging of works.

- 390. Streamworks shall only be carried out in accordance with the approved Streamworks Methodology required in Condition 389.
- 391. Notwithstanding condition 390 above, no streamworks on the subject site shall be undertaken between 1 May and 30 September in any year, without the prior written approval of Council.

PART G – AFTERCARE CONDITIONS

392. The Consent Holder shall adopt a minimum post-closure aftercare period of 30 years. Monitoring and maintenance requirements for the aftercare period shall be set out in the Post Closure Management Plan required by Condition 396. The term of the aftercare period may be reduced in accordance with the provisions of Condition 396.
393. At the time of closure of the landfill the site shall be restored in accordance with the LMVP without undue delay.

Leachate and Landfill Gas collection and disposal

394. The Consent Holder shall have a continuing responsibility for leachate and gas collection and disposal beyond the operating life of the landfill as a disposal facility, as described in Conditions 396 and 397.
395. The consent holder shall produce a report at the end of the post-closure aftercare period which shall demonstrate that the leachate and landfill gas no longer presents any undue or unacceptable risk to the environment to the satisfaction of the Council.

Aftercare / Post Closure Management Plan

396. At least 12 months prior to the reasonably projected landfill closure date, the Consent Holder shall provide a Post Closure Management Plan (PCMP) for certification by Council. The objective of the PCMP is to describe the measures to be taken to stabilise the site and maintain environmental controls including stormwater, leachate and landfill gas collection and treatment. The Consent Holder shall adhere to and maintain the PCMP for the duration of the post-closure aftercare period. The PCMP shall be updated as necessary to reflect any changes under items set out in Condition 397, and any updates shall be submitted to Council for certification prior to implementation.
397. The PCMP shall include details of:
- (a) Ongoing measures for collection and disposal of leachate and landfill gas;
 - (b) Ongoing monitoring and reporting of groundwater, surface water and landfill gas;
 - (c) Proposed planting of the landfill cap;
 - (d) Proposed access and use of the site, including consideration of public access to the site whilst limiting activities to avoid damage to the final cap and gas extraction infrastructure;
 - (e) Monitoring of site integrity, including repairs to the final cover system; contingency measures in case of natural hazards, and maintenance and control of vegetation;

- (f) Contact arrangements for Council and adjacent property owners to maintain communications with aftercare operations personnel; and
- (g) The proposed shaping, contouring and planting of any remaining soil on the stockpile 1 location.

PART H – GENERAL ADVICE NOTES

1. *The council may at any time undertake source emission testing and/or any other monitoring to ensure compliance with the conditions of this consent. The consent holder is advised that they will be required to pay for the costs of this monitoring required pursuant to section 36(5) of the RMA.*
2. *For the purpose of compliance with conditions of consent, "the Council" refers to the council monitoring inspector unless otherwise specified. Please email monitoring@aucklandcouncil.govt.nz to identify your allocated officer.*
3. *The council acknowledges that the Management Plans are intended to provide flexibility both for the consent holder and the council for the management of the environmental effects of the landfill. Certification of the Management Plans by the council relates only to those aspects of the management plan that are relevant under the RMA. The certification does not amount to an approval or acceptance of suitability by the council of any elements of the management plan that relate to other legislation, for example, but not limited to, the Building Act 2004 or the Health and Safety at Work Act 2015.*
4. *The Heritage New Zealand Pouhere Taonga Act 2014 (hereafter referred to as the Act) provides for the identification, protection, preservation and conservation of the historic and cultural heritage of New Zealand. All archaeological sites are protected by the provisions of the Act (section 42). It is unlawful to modify, damage or destroy an archaeological site without prior authority from Heritage New Zealand Pouhere Taonga. An Authority is required whether or not the land on which an archaeological site may be present is designated, a resource or building consent has been granted, or the activity is permitted under the Auckland Unitary Plan Operative in part (November 2016).*

According to the Act (section 6) archaeological site means, subject to section 42(3) –

- (a) *any place in New Zealand, including any building or structure (or part of a building or structure), that –*
 - (i) *was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and*
 - (ii) *provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and*
- (b) *includes a site for which a declaration is made under section 43(1)*

It is the responsibility of the consent holder to consult with Heritage New Zealand Pouhere Taonga about the requirements of the Act and to obtain the necessary Authorities under the Act should these become necessary, as a result of any activity associated with the consented proposals.

For information please contact the Heritage New Zealand Pouhere Taonga Northern Regional Archaeologist – 09 307 0413 / archaeologistMN@historic.org.nz.

5. *Māori artefacts such as carvings, stone adzes, and greenstone objects are considered to be tāonga (treasures). These are taonga tūturu within the meaning of the Protected Objects Act 1975 (hereafter referred to as the Act).*

According to the Act (section 2) taonga tūturu means an object that –

- (a) relates to Māori culture, history, or society; and*
- (b) was, or appears to have been –*
 - (i) manufactured or modified in New Zealand by Māori; or*
 - (ii) brought into New Zealand by Māori; or*
 - (iii) used by Māori; and*
- (c) is more than 50 years old*

The Act is administered by the Ministry of Culture and Heritage. Tāonga may be discovered in isolated contexts, but are generally found within archaeological sites.

The provisions of the Heritage New Zealand Pouhere Taonga Act 2014 in relation to the modification of an archaeological site should be considered by the consent holder if tāonga are found within an archaeological site, as defined by the Heritage New Zealand Pouhere Taonga Act 2014.

It is the responsibility of the consent holder to notify either the chief executive of the Ministry of Culture and Heritage or the nearest public museum (for Auckland this is the Auckland War Memorial Museum), which shall notify the chief executive, of the finding of the taonga tūturu, within 28 days of finding the taonga tūturu; alternatively provided that in the case of any taonga tūturu found during the course of any archaeological investigation authorised by Heritage New Zealand Pouhere Taonga under section 48 of the Heritage New Zealand Pouhere Taonga Act 2014, the notification shall be made within 28 days of the completion of the field work undertaken in connection with the investigation.

Under section 11 of the Act, newly found taonga tūturu are in the first instance Crown owned until a determination on ownership is made by the Māori Land Court.

For information please contact the Ministry of Culture and Heritage – 04 499 4229 / protected-objects@mch.govt.nz.

6. *The road stopping process needs to be completed and an unconditional agreement to purchase the land which was previously legal road must be in place before any works or occupation by landfill operations occur on those legal roads, unless otherwise agreed with Auckland Transport.*

PART I – RESOURCE CONSENT NUMBERS AND ASSOCIATED ACTIVITIES

Parts A to H apply to the following consents and activities.

Land use consents (s.9) – LUC60339671

Land Disturbance – District

- The undertaking of earthworks over an area of approximately 136.4ha within a rural zone.
- The undertaking of earthworks involving a volume of approximately 5.5 million m³ within a rural zone.

Vegetation Management and Biodiversity

- The removal of approximately 5.5ha of contiguous indigenous vegetation within a site outside the rural urban boundary.
- The removal of vegetation within a riparian area and within a Natural Stream Management Area Overlay.
- The removal of vegetation within 10m of a rural stream within the Rural – Rural Production Zone.
- The removal of vegetation within 20m of a natural wetland.

Infrastructure

- The provision of an electricity generating facility within a rural zone.

Transport

- The construction and use of a vehicle crossing from SH1, being a situation where a vehicle access restriction applies.

Natural Hazards and Flooding

- The provision of new structures and buildings within a flood plain.
- Diverting or reducing the capacity of an overland flow path.
- The provision of new structures and buildings within an overland flow path.
- The provision of new infrastructure within a flood plain and an overland flow path.

Rural Zones

- The establishment of a managed fill in the Rural – Rural Production Zone.

- The establishment of a landfill in the Rural – Rural Production Zone.

Land Disturbance – Regional

- Earthworks over an area greater than 2,500m² where the slope is greater than 10 degrees within a rural zone.
- Earthworks over an area greater than 2,500m² within a sediment control protection area within a rural zone.

Industrial and Trade Activities

- The use of the site for a new industrial or trade activity, being a landfill, which is listed as high risk in Table E33.4.3.

Streamworks consent (s.13 and s.14) – LUS60339672

- The crossing of a wetland with a road.
- The placement of felled logs within wetlands to improve biodiversity values, being an activity for the purposes of habitat enhancement.
- The diversion of streams to a new course and associated disturbance and discharge of sediment.
- The construction of culverts within streams that are more than 30m in length when measured parallel to the direction of water flow and located outside a prescribed overlay.
- The construction of a bridge within a Natural Stream Management Area.
- The reclamation of approximately 13,915m of intermittent and permanent streams.
- The reclamation of approximately 1.37ha of wetlands.

Water permit (s.14) – WAT60339673, WAT60343935, WAT60343932, WAT60343937, WAT60343938, WAT60343938 & WAT60343939

WAT60339673

- The take and use of up to 150m³ per day of surface water from the proposed stormwater pond / dams for non-potable water use.

WAT60343935

- The take and use of up to 50m³ per day of groundwater for potable water use.

WAT60343932

- The diversion of groundwater associated with excavations that exceed the permitted activity standards in terms of the duration of the works and the depth of excavation relative to groundwater levels.
- Dewatering associated with a groundwater diversion that does not meet the associated permitted activity standards as set out above.

WAT60343937

The provision of an off-stream dam (stormwater pond 2) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m³ of water.

WAT60343938

- The provision of an off-stream dam (stormwater pond 3) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m³ of water.

WAT60343939

- The provision of an off-stream dam (stormwater pond 4) that does not meet the permitted activity standards set out in E7.6.1.11 and E7.6.1.12, as it is greater than 4m in height and will impound more than 20,000m³ of water.

Discharge permit (s.15) – DIS60343735

- The diversion and discharge of stormwater from more than 5,000m² of impervious area outside an urban area.

Discharge permit (s.15) – DIS60343736

- Discharges from a managed fills.
- Discharges from a new landfill.
- Discharges associated with the placement and compaction of material associated with a landfill.

Discharge permit (s.15) – DIS60343780

- Discharges to air from evaporation of leachate.
- Discharges to air from the combustion of landfill gases.
- Discharges to air from the bin exchange area, which functions as a refuse transfer station.
- Discharges to air from a landfill that do not comply with standards.

Discharge permit (s.15) – DIS60343781

- The discharge of contaminants from a new industrial or trade activity, being a landfill, which is listed as high risk in Table E33.4.3.