Decision following the hearing of an application for resource consent under the Resource Management Act 1991

Proposal

Regional resource consents and a land use consent (NES Soil) for earthworks, vegetation removal and associated activities related to the Huia Replacement Water Treatment Plant.

The resource consents **GRANTED**. The reasons are set out below.

Application number:	BUN60339273
Site address:	Woodlands Park Road / Manuka Road, Waima (Titirangi)
Applicant:	Watercare Services Ltd
Hearing commenced:	Monday 24 February 2020, 9.30am
Hearing panel:	Philip Brown (Chairperson) Juliane Chetham Hugh Leersnyder Michael Parsonson
Appearances:	For the Applicant: Bill Loutit, Legal Sarah Mitchell, Legal Mark Bourne Priyan Perera Paul Jones Rachel de Lambert Jonathan Reed Daniel Williams Joseph Phillips Raveen Jaduram Richard Waiwai Paul Walker Dr Sarah Flynn Dr Helen Blackie Kenneth Scarlett Dr Ian Boothroyd Campbell McGregor Kevin Hind Matthew Cottle David Fougere Amelia Linzey Jessica Urquhart

	Karen Baverstock Gregory Finlayson Dr David Seldon Lee Hill <u>For the Submitters:</u> Department of Conservation • Michelle Hooper, legal • Dr Tim Martin, ecology • David Havell • Dr Jamie MacKay • Jacqui Wairepo • Angus Grey Sandra Coney Wendy Gray Max Tongue Keith Berman • Natasha Berman • Mark Carter Justine Cormack Royal Forest and Bird Protection Society • William Jennings, legal • Nicholas Beveridge • Jack Craw • Shona Myers • Dr Nick Waipara Titirangi Residents and Ratepayers Association • Dr Mels Barton • Shona Myers • Jack Craw • Dr Nick Waipara The Tree Council • Sean Freeman • Shona Myers • Jack Craw • Dr Nick Waipara Waitakere Ranges Protection Society • Douglas Allan • Shona Myers • Jack Craw • Dr Nick Waipara • Robin Taylor Claudia Turner Lisa Prager

	South Titirangi Ratepayers and Residents Association • Robert Richards Waituna Action Group • Dr Simon Mowatt • Simon Grant Brent Courtney Manuka Road Residents Society • Gill Chappell, legal • Oleg Medvedev • Svetlana Gubanova • Jolie and Dave Hutchings • Winnie Ye • Pia Rheinlander and Cyril Hamiaux • Tamara George Kit Holt John La Roche Belynda Groot Arie Hinton Waitakere Ranges Local Board • Greg Presland Save Our Kauri Trust • Winnie Charlesworth • Dr Cate Macinnis-Ng (tabled doc) Titirangi Protection Group • Belynda Groot • Simon Kitson • Douglas Cowan • Megan Fitter • Katy Atkin • Dr Nick Waipara • Tina Samuelu Megan Fitter Tina Samuelu Waima and Woodlands Park Residents and Ratepayers Association • Steven Westwood • Tina Samuelu Clifford Morris Mary Mears Penny Sparks Edward Ashby - Te Kawerau ā Maki Dr Nari Williams Dr Monica Gerth (tabled) Dr Amanda Black (tabled)

	Dr Peter de Lange (tabled) Matthew Davis (for Titirangi Protection Group) Brett Stansfield <u>For Council:</u> Tracey Grant, Project Manager Richard Blakey, Reporting Planner Anatole Sergejew, Traffic Engineer Matt Colins, Transport Irshaad Chawdhary, Development Engineer Andrew Gordon, Noise Consultant Carl Tutt, Earthworks/ Streamworks Hillary Johnston, Stormwater Mat Collins, Traffic - Auckland Transport Dr Graham Ussher, Ecologist Dr Murray Fea, Kauri Dieback Dr Carol Bergquist, Terrestrial Ecology, Arboricultural Sian France, Geotechnical/ Groundwater Sharon Tang, Specialist Unit – Contamination Peter Kensington, Landscape Georgina Morgan, Hearings Advisor Sam Otter, Senior Hearings Advisor
Hearing adjourned	Friday 13 March 2021 and Friday 16 April 2021
Commissioners' site visit	Tuesday 25 February 2020
Hearing Closed:	Monday 10 May 2021

Introduction

1. This decision is made on behalf of the Auckland Council ("**the Council**") by Independent Hearing Commissioners Philip Brown (Chairperson), Juliane Chetham, Hugh Leersnyder and Michael Parsonson, appointed and acting under delegated authority under section 34A of the Resource Management Act 1991 ("**RMA**").

2. This decision contains the findings from our deliberations on the application for resource consents by Watercare Services Limited ("**applicant**") to undertake earthworks, vegetation removal and associated activities related to its proposal to establish a replacement Huia Water Treatment Plant ("**Huia WTP**") at a site in Woodlands Park Road and Manuka Road, Titirangi.

3. Our decision has been prepared in accordance with section 113 of the RMA.

Procedural matters and hearing

4. There were two procedural matters that arose at the hearing and required a determination from the Commissioners.

5. Firstly, we needed to consider whether to accept any submissions received after the statutory submission period closed on 2 September 2019. One late submission was received, from Waima to Laingholm Pest Free. The submission was dated 1 September 2019 but received by the Council on or about 20 September 2019. We resolved to receive this submission on the grounds that the delay in filing it was not substantial, that the submission raised similar matters to other submissions, and because the applicant did not object to it being received.

6. Secondly, we received a request from Bryan Bruce[1] to undertake filming during the hearing. Mr Bruce advised that he was making a documentary focused on questions relating to the 'public good'. We addressed Mr Bruce's request at the commencement of the hearing and, after hearing the views of the applicant and those submitters in attendance, agreed to the request. Our agreement was subject to the filming being conducted unobtrusively, with no close images of papers or notes, and to avoid filming any submitter that expressed opposition to being filmed.

7. Mr Bruce agreed to those conditions and filming occurred intermittently over several of the hearing days.

8. The hearing comprised 11 days in total, with the first and last hearing days being separated by over a year. The first eight hearing days were devoted to receiving evidence from the applicant and the submitters. We then adjourned the hearing on 12 March 2020, before the Council's opportunity to respond to the evidence, in order to obtain further information. Specifically, we directed that the applicant undertake testing on and around the site in order to determine the presence (or absence) of Kauri dieback disease and its extent. The methodology for the sampling and testing was agreed between the Kauri dieback expert witnesses, through expert conferencing.

9. The results of the testing were made available in November 2020, following some delays partially due to the COVID-19 lockdowns. The results confirmed the presence of Kauri dieback on the site and in the immediately surrounding area. At our direction, the respective experts undertook substantive expert witness conferencing in December 2020 and produced a Joint Witness Statement ("**JWS**") that was signed by most (but not all) of the experts. The JWS recorded the views of the experts on the effectiveness and nature of Kauri dieback management controls that might be put in place in the event that consent were to be granted.

10. The hearing was reconvened on 14 April 2021, at which time we heard further evidence from the parties focused primarily on the Kauri dieback issue, received the responses from the Council's reporting planner and specialists, and were provided with the applicant's oral reply. A copy of the applicant's written legal submissions in reply was received on 30 April 2021 and the hearing was subsequently closed on 10 May 2021.

[1] Mr Bruce indicated that he is the Chief Executive Officer of New Zealand Public Television

11. One further small issue arose since the hearing was closed. The applicant identified that there was an error in proposed condition 66C, where the condition referred to organic material and surface subsoil being retained on site. Retention of soil on-site is not intended as part of the proposal and would create a conflict with other conditions that require removal of such material for disposal off-site.

12. The applicant addressed this through a memorandum of counsel dated 15 June 2021, which set out a proposed amendment to condition 60 (previously called 66C) that would remedy the error. The memorandum also included the applicant's opinion that the amendment simply corrects an error in the condition rather than provides for a fundamental change. We agreed with the applicant's position on the amendment sought, and also its suggestion that the submitters be advised of this matter. The applicant's memorandum was subsequently distributed to the parties on 16 June 2021 for information purposes.

Information considered and summary of evidence

13. A comprehensive s42A report was prepared by Richard Blakey, an experienced consultant planner. The s42A report was circulated prior to the hearing and taken as read. The report addressed the application material, further information responses provided by the applicant, and all the submissions received on the application. Mr Blakey helpfully provided a draft set of proposed conditions, appended to his report.

14. Mr Blakey's recommendation in the s42A report was that consent should be granted. However, after hearing the evidence of the parties, Mr Blakey amended his position to recommend that consent be refused. Notwithstanding his change in recommendation, Mr Blakey updated the proposed set of conditions in the event that we were minded to granted consent.

15. The s42A report included a number of technical specialist reviews, prepared by other Council officers and independent consultants. The authors of the reviews are those specialists listed in the appearance record at the start of this decision.

16. The applicant and submitters pre-circulated briefs of the expert evidence they proposed to call at the hearing in respect of the application. The witnesses that prepared the evidence are also listed in the record of appearances at the front of this decision. Much of the more comprehensive lay evidence provided by submitters was also provided in advance of the hearing, which was helpful to us given the volume of material we had to consider.

17. Pre-circulated evidence was taken 'as read' at the hearing, as we had read it in advance of the hearing date. However, witnesses were given the opportunity to summarise and/or highlight aspects of their written briefs. Several of the witnesses for both the applicant and the submitters also presented supplementary or rebuttal statements of evidence responding to new information that had arisen or matters addressed in the evidence provided by submitters. Some evidence from

submitters was tabled for our consideration, which we read but were not able to ask the author questions.

18. At the conclusion of the submitters' evidence, Mr Blakey 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. Most of the specialists, and Mr Blakey, helpfully provided a written summary of their position and opinion on the application. Mr Loutit, on behalf of the applicant, summarised his reply submissions orally and this was followed with a final written reply two weeks later.

19. Section 113 specifically requires us to provide a summary of the evidence we heard at the hearing. The volume of evidence presented to us was substantial, reflecting the broad and technical scope of the proposal, the contentious nature of the project, and the large number of submitters. We have included a summary of the evidence in Schedule 1 to this decision. Our summary of each witness's evidence is relatively brief because all the evidence is available in full on Council's website, and due to the volume of evidence we received. However, the summary does set out the broad contents and conclusions of the evidence presented without going into detailed analysis and opinions. We record that we have reviewed and considered in detail all of the evidence presented to us.

Summary of proposal and activity status

20. The applicant has applied for regional resource consents under the Auckland Unitary Plan Operative in Part ("**AUP**") and a land use consent under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 ("**NES Soil**") to undertake earthworks, vegetation removal and associated activities related to its proposal to establish a replacement Huia WTP.

21. The applications relate to three parcels of land located adjacent to the intersection of Woodlands Park Road and Manuka Road, in Titirangi. Most of the proposed works will be focused on land immediately to the south of Woodlands Park Road and east of Manuka Road, which is intended to accommodate the replacement Huia WTP. This land is undeveloped at the current time and is largely covered in indigenous vegetation that is identified in the AUP's Significant Ecological Area ("**SEA**") Overlay. It comprises around 4.2 hectares in area and slopes generally to the south at a relatively gentle gradient. For convenience, we hereafter refer to this parcel of land as the replacement WTP site.

22. Works are proposed over approximately 2.7 hectares of the replacement WTP site, with the permanent plant footprint intended to occupy about 2.2 hectares of that. Two small gully systems oriented north-south are present in the southern part of the replacement WTP site, with the westernmost gully containing the Armstrong Stream and the Yorke Stream flowing within the eastern gully.

23. On the opposite side of Manuka Road is a parcel of land comprising approximately 4.0 hectares in area. It contains the existing Huia WTP, which has been operating for around 90 years. We refer to this land as the existing Huia WTP site. The site falls at a moderate slope away from Woodlands Park Road, and is partially covered in native bush. The Armstrong Stream enters the existing Huia WTP site from the east and is then piped beneath the detention basin in the centre of the site before reverting back to a natural open form close to the southern boundary. The proposal seeks to establish a water storage reservoir (Reservoir 2) on the eastern part of the existing Huia WTP site once the plant has been decommissioned.

24. The third land parcel is located immediately north of Woodlands Park Road, opposite the northern end of Manuka Road. This land is intended to accommodate another water storage reservoir (Reservoir 1), and for this reason we refer to it as the Reservoir 1 site. It is largely covered with bush and comprises a total site area of 6.4 hectares, although only about 0.8 hectares of the Reservoir 1 site will be subject to works. A relatively small water storage tank is currently located in the middle of the site. The topography of the Reservoir 1 site is very steep adjacent to its northern boundary (below the Exhibition Drive walking track) and undulating elsewhere with a number of pronounced humps and hollows. The Armstrong Stream flows through the western part of the site before crossing beneath Woodlands Park Road.

25. The applicant proposes to establish a replacement Huia WTP, together with the two reservoirs noted above. The existing plant would be decommissioned. The proposal is described in detail in the applicant's documentation that accompanied the application and in the s42A report.

26. The proposal would replace the existing Huia WTP with a new plant to be located on the replacement Huia WTP site. The maximum production capacity of the new plant will be 140 megalitres per day (ML/day).[2] The applicant has stated that the improved water treatment process enabled by the new plant will also provide a more effective form of treatment for the raw water received from the Waitakere Ranges catchment, thereby ensuring ongoing compliance with the Drinking-Water Standards for New Zealand.

27. Two new treated water reservoirs (with a combined capacity of 50ML) will also be constructed. One of these will be on the eastern part of the existing Huia WTP site (Reservoir 2) and the other will be located to the north of Woodlands Park Road (Reservoir 1). Reservoir 1 will be buried below ground level, save for part of its eastern end. The Reservoir 1 site will also accommodate a reception shaft and valve chamber for the NH2 watermain tunnel, which distributes treated water to the western and northern parts of the Auckland urban area. Reservoir 2 is intended to be constructed after the existing Huia WTP is decommissioned.

28. The applicant has stated that there are significant functional and operational advantages of the replacement Huia WTP and the two reservoirs being at this

[2] One megalitre is equivalent to one million litres

particular elevation, as it allows the water collection, treatment, storage and distribution network to operate in an efficient and resilient manner. This is primarily because the entire system can function with minimal use of pumping to move the water around, as gravity is used to assist the conveyance. A treatment plant in the proposed location is also close to the four contributing dams that collect raw water from Huia and nearby parts of the water supply area.

29. The key aspects of the proposal are summarised as follows:

- Vegetation alteration and removal over an area of approximately 3.5 hectares across the three land parcels that make up the site;
- Earthworks of approximately 44,800m^2 (total area) (which includes 118,000m^3 within the SEA overlay) associated with construction establishment (including diversion of existing services and establishment of laydown areas, site access and haul roads), establishment of erosion and sediment controls including clean water diversions, bulk earthworks and placement of fill material, construction of retaining walls and slope stabilisation, and construction of the NH2 watermain tunnel shaft and valve chamber on the reservoir site;
- Creation of a stream diversion channel around the perimeter of the WTP works;
- Construction of the reception shaft to provide for a connection to the new raw water intake tunnel on the replacement WTP site;
- Construction of a new inlet structure in the form of a wing wall in the eastern embankment of the existing off-specification discharge lagoon on the existing WTP site;
- Installation of underground pipework between the replacement WTP site, the Reservoir 1 site, and the existing Huia WTP site;
- Temporary diversion and damming of surface water and the discharge of treated sediment laden water associated with earthworks;
- Disturbance of a small area of potentially contaminated soil[3];
- Stream works including diversion and reclamation works in the Yorke Gully Stream, and the establishment of erosion and scour protection;
- Groundwater diversion and dewatering on the reservoir site; and
- Diversion and discharge of stormwater.

[3] Contaminated in respect of the AUP or NES standards, rather than in relation to Kauri dieback

30. The proposal also includes conditions put forward by the applicant to mitigate or compensate for the acknowledged adverse effects that will arise. Of particular note in this regard are conditions relating to establishment of a comprehensive mitigation and biodiversity compensation package. It forms part of the application as it is offered by the applicant. The compensation package includes establishment of the Waima Biodiversity Management Plan ("**WBMP**"). The WBMP seeks to coordinate and improve community-based conservation efforts in the 990-hectare Little Muddy Creek catchment, through pest management and other efforts to promote natural forest regeneration.

31. The applicant would provide funding to implement the WBMP through an initial lump sum payment of $5 million, and governance would occur through a charitable trust (Waima Biodiversity Trust ("**Trust**")) comprising representatives from the applicant, Auckland Council, the community, Mana Whenua, and an independent trustee.

32. Because the detailed design of the Huia WTP has yet to be finalised, the application relies to an extent on management plans. A series of management plans are proposed to address the effects of the proposal, covering matters such as construction traffic, construction noise and vibration, ecology, Kauri dieback, and general site management.

33. It is important to note that we are tasked with considering and determining only the regional resource consent applications for earthworks, vegetation removal, and associated activities, and a land use consent required under the NES Soil. All other aspects of the proposal, including the physical structures that make up the WTP, are addressed separately through the Outline Plan of Works process as the land is designated in the AUP for '*Water Supply purposes – water treatment plants and associated structures.*'[4] We understand that the Outline Plan of Works was submitted to the Council in December 2019,[5] and that Council has yet to make recommendations to the applicant in respect of it.[6]

34. A list of the consents required and the reasons for those consents is set out below.

AUP – stream diversion/ replacement

- E3.4.1 (A19) - the diversion of a river or stream to a new course and associated disturbance and sediment discharge in a SEA is a **non-complying activity**. The diversion of an intermittent section of the Yorke Gully Stream is required to enable construction of the WTP.

- E3.4.1 (A34) - erosion control structures less than 30m in length when measured parallel to the direction of water flow, and complying with the standards in E3.6.1.14, are a **discretionary activity** in a SEA. Erosion control structures such as riprap or concrete baffle block may be required in

[4] Designation reference 9324 in the AUP
[5] Council reference OPW60351346
[6] Applicant's reply submissions, at 8.4

the Yorke Gully Stream and Armstrong Stream to protect the stream from scour associated with the stormwater discharge. Erosion protection is also proposed for environmental compensation reasons in the Stream Ecological Valuation Plan to address existing erosion issues.

- E3.4.1 (A49) - new reclamation or drainage, including filling over a piped stream in a SEA, is a **non-complying activity**. The location of the replacement WTP site encompasses a small reach of the Yorke Gully Stream classified as an intermittent stream that is within the works area and is proposed to be reclaimed.

AUP - groundwater

- E7.4.1 (A20) – dewatering or groundwater level control or use occurring for a period of more than 30 days[7] requires consent as a **restricted discretionary activity**. There are two groundwater systems present within the site, one shallower groundwater table at approximately 6 metres below ground level ("**mbgl**") and a deeper groundwater system at 9 mbgl. Groundwater will therefore need to be managed during excavation works on the Reservoir 1 site, and for a period exceeding 30 days.

- E7.4.1 (A28) - the diversion of groundwater caused by any excavation, that does not meet the permitted activity standards is a **restricted discretionary activity**. The establishment of Reservoir 1 will result in the permanent diversion of groundwater from excavations that will extend more than 6m below ground in some places[8] over an area greater than 1ha (which is not a specifically listed activity).

AUP – impervious areas

- E8.4.1 (A10) - the diversion and discharge of stormwater runoff from impervious areas over 5,000m^2 outside an urban area is a **discretionary activity**. The proposal involves the development of approximately 28,430m^2 (2.84 ha) of impervious area, and stormwater from this area will be discharged to the Yorke Gully Stream (to maintain hydraulic neutrality) and to the existing off-spec discharge lagoon (from where it is discharged to Armstrong Gully).

- E10.4.1 (A4) – development of new impervious areas greater than 50m^2 within a Stormwater management area control – Flow 1 that do not comply with Standard E10.6.1 or Standard E10.6.4.1 is a **discretionary activity**. The proposal involves the development of approximately 28,430m^2 (2.84 ha) of impervious area within a SMAF 1 overlay and does not comply with the restricted discretionary activity standards in E10.6.1.

[7] Permitted activity standard E7.6.1.6(3)
[8] Permitted activity standard E7.6.1.10(2)

AUP - Vegetation removal

- E26.3.3 (A77) – vegetation alteration or removal in a SEA that cannot comply with permitted activity standards is a **restricted discretionary activity**. The proposal involves vegetation removal on both the Reservoir 1 site and the replacement WTP site, which will include trees over 6m in height and 600mm in girth. Vegetation removal will also result in the removal of more than 20m^2 of vegetation within a SEA. Therefore, the proposed works cannot comply with conditions (1) and (2) of the permitted activity standard E26.3.5.2.

AUP - earthworks

- E26.5.3 (A106) and (A107) - earthworks for infrastructure that exceed 2,500m^2 (other than for maintenance, repair, renewal or minor infrastructure upgrading), on a slope that is greater than 10 degrees and/or within the Sediment Control Protection Area ("**SCPA**") require consent as a **restricted discretionary activity**. The proposed earthworks comprise an area of 44,800m^2 and are on a slope greater than 10 degrees and within the SCPA.

- E26.6.3 (A118) - earthworks for infrastructure within the SEA Overlay that exceeds 2,500m^2 and 2,500m^3 requires consent as a **discretionary activity**. Earthworks of 35,000m^2 and 118,000m^3 are proposed within the SEA.

AUP - contamination

- E30.4.1 (A7) - discharges of contaminants into air, or into water, or onto or into land not meeting permitted or controlled activity standards is a **discretionary activity**. The volume of soil disturbed on the site will exceed 200m^3 and therefore the proposed disturbance exceeds permitted and controlled activity standards as the applicant has assumed that environmental contaminants may be present.[9]

NES Soil

- The NES Soil applies to activities that disturb the soil if the relevant piece of land is, or has previously been, recorded on the Ministry for the Environment's Hazardous Activities and Industries List ("**HAIL**"). The application seeks land use consent as a **discretionary activity** under Regulation 11 of the NES Soil, which applies to activities described in Regulation 5 that are not permitted, controlled or restricted discretionary activities. In this instance, the application notes that a HAIL activity may have previously occurred on the site, being the removal of buildings (dwellings) potentially containing Asbestos Containing Materials and/or lead based paints. In this regard, soil disturbance volumes on site exceed the

[9] This assumption has been made in the absence of a detailed site investigation

permitted activity standards under the NES Soil of no more than 25m^3 per 500m^2 of disturbance and no more than 5m^3 per 500m^2 removed from site per year. The duration of works will also be greater than 2 months. In order for soil disturbance to qualify as a controlled or restricted discretionary activity under the NES Soil a Detailed Site Investigation ("**DSI**") must exist for the site. A DSI has not yet been prepared for the site.

35. Overall, the proposal has been considered as a **non-complying activity**. The resource consents required to enable the site development works overlap, meaning that bundling of the consents is appropriate in this instance.

Locality and receiving environment

36. We undertook an extensive site visit of the existing WTP, the replacement WTP and Reservoir 1 sites, and the surrounding area in February 2020.

37. The site is located in an area that is characterised by low-density residential settlement within a native bush environment, by public open space, and by the buildings and infrastructure associated with current and former public water supply. Titirangi Village is located approximately 1km to the east of the site, while to the north is the former Nihotupu Filter Station building and the formed track along Exhibition Drive. The track is well-used by the public. Local roads are often not formed to a typical urban standard and can be relatively narrow and winding, reflecting the generally steep topography.

38. Immediately south of the replacement WTP site are a number of residential properties, accessed from a shared right-of-way that adjoins the site's boundary. These properties are 12-20 Manuka Road and their owners (and other near neighbours) were represented at the hearing through the Manuka Road Residents Society.

39. We are aware that the existing WTP has a discharge permit to discharge 'off-spec' water and contingency overflows into Armstrong Stream, via the detention lagoon on that site. The applicant intends that this existing consent will be used to authorise similar water discharges from the proposed replacement WTP, which would be piped into the existing lagoon.

40. While the AUP allows some permitted activities on the site, we consider that they do not provide a useful permitted baseline of effects for comparison purposes and we have disregarded any permitted baseline effects.

Notification and submissions

41. The applications were publicly notified 5 August 2019 at the request of the applicant. A total of 500 submissions were received, with 472 opposed to the applications, 20 in support and eight neutral.

42. Mr Blakey, in his s42A report, has identified a number of issues that are raised through the submissions. We have read all of the submissions and agree with his identification of key issues, which we reproduce below:

- *Need to review site selection process*
- *Insufficient consultation*
- *Impact of works on Shetland Street residents*
- *Earthworks effects and sediment discharges*
- *Stream diversion and discharge*
- *Biodiversity effects including ecological values, arboricultural/deforestation etc associated with removal of native bush*
- *Narrow width of vegetated buffer zone*
- *Effects on the management of kauri dieback*
- *Contamination effects*
- *Ground instability/groundwater diversion*
- *Cultural effects*
- *Traffic impacts during earthworks and vegetation removal stage, including effects on schools and removal of public parking*
- *Noise of proposed works and traffic movements*
- *Social impacts*
- *Ecological compensation not adequate (e.g. timescale too short, scale of offset is too low)*
- *Proposal does not pass s104D RMA threshold tests*
- *Inconsistency with statutory and non-statutory documents (e.g. RMA, AUP(OP), Waitakere Ranges Heritage Area Act, Muddy Creek Local Area Plan, Urban Ngahere (Forest) Strategy, draft NPS on Biodiversity)*
- *Impact on climate change (with reference to the Council's declaration of a climate emergency)*
- *Tourism amenity effects*
- *Impacts on property values*
- *Proposal is contrary to s5 (Part 2)*

43. A considerable amount of the submitters' expert evidence was called on behalf of interest groups and organisations, including the Department of Conservation ("**DoC**"), the Waitakere Ranges Protection Society, the Royal Forest and Bird Protection Society, the Tree Council, Titirangi Protection Group, Manuka Road Residents Society, Titirangi Residents and Ratepayers Association, Waima and

Woodlands Park Residents & Ratepayers Association, South Titirangi Ratepayers and Residents Association, and the Waituna Action Group.

44. Several of the expert witnesses gave their evidence on behalf of a combined group of submitters comprising Save Our Kauri Trust, Titirangi Protection Group, The Royal Forest and Bird Protection Society of New Zealand, Waitakere Ranges Protection Society, The Tree Council and the Titirangi Residents and Ratepayers Association.

45. Te Kawerau ā Maki, as Mana Whenua, gave evidence at the hearing through its representative Edward Ashby. Mr Ashby's evidence indicated that he also appeared on behalf of the combined group of submitters noted above.

46. We have read and carefully considered all of the submissions that were received, in reaching a decision on the application.

Relevant statutory provisions considered

47. In accordance with the requirements of the RMA, we have had regard to the relevant statutory provisions including the relevant sections of Part 2 and sections 104, 104B, 104D, 105, 107, 108, and 108AA.

Relevant standards, policy statements and plan provisions considered

48. In accordance with section 104(1)(b)(i)-(vi) of the RMA, we have had regard to the relevant policy statements and plan provisions of the following documents.

- The Auckland Unitary Plan, Operative in Part (including the Regional Policy Statement ("**RPS**")), and particularly:
  - Chapters B2, B3, B4, B6, B7 and B10 (RPS)
  - Chapter D9 (SEA Overlay)
  - Chapter E1 (Water quality and integrated management)
  - Chapter E2 (Water quantity, allocation and use)
  - Chapter E3 (Lakes, rivers, streams and wetlands)
  - Chapter E10 (Stormwater management area – Flow 1)
  - Chapter E11 (Land disturbance - regional)
  - Chapter E26 (Infrastructure)
  - Chapter E30 (Contaminated land)
- The NES Soil
- The National Policy Statement (Freshwater Management) 2020 ("**NPS-FM**")
- The National Environmental Standard Freshwater 2020 ("**NES-F**")

49. We also considered the following other matters to be relevant and reasonably necessary to determine the application in accordance with section 104(1)(c) of the RMA.[10]

- The Muddy Creeks Plan (a Local Area Plan ("**LAP**"))
- Te Kawerau ā Maki rāhui
- Auckland's Urban Ngahere (Forest) Strategy

50. Other non-statutory matters were put before us during the course of the hearing, but we did not identify any document or matter other than the above that were of some direct assistance or relevance in determining the application. We record that the submissions were fully considered but we do not see those as a s104(1)(c) matter, given that we must consider them (alongside the application for resource consents) in accordance with s104(1).

Local Board comments

51. The Waitākere Ranges Local Board ("Local Board") lodged a submission in relation to the applications.[11] Greg Presland, from the Local Board, spoke to the submission at the hearing. The Local Board opposes the proposal on the basis that it is inconsistent with the Waitakere Ranges Heritage Area Act 2008 ("**WRHAA**") and the LAP applying to the Little Muddy Creek catchment, requires the removal of 3.5ha of indigenous forest, and will generate heavy vehicle traffic on local roads.

52. The Local Board suggested that the applicant consider locating the WTP at its sludge disposal site or alternatively in an urban industrial area.

53. The applicant's proposal to restore and repurpose the Nihotupu Filter Station building is supported by the Local Board, as is the proposal for a significant environmental compensation package (in the event that the WTP is established in the Waima area).

54. We have considered the views of the Local Board in reaching our decision on the application.

Summary of evidence heard

55. The Council planning officer's recommendation report was circulated prior to the hearing and taken as read.

[10] A summary of legal advice received from the Council's lawyers suggested that the WRHAA is not a s104(1)(c) matter, but rather a separate consideration that sits outside the RMA
[11] Submission number 5297

56. The evidence presented at the hearing responded to the issues and concerns identified in the Council planning officer's recommendation report, the application itself and the submissions made on the application.

57. The evidence presented by the applicant and submitters at the hearing is summarised in **Schedule 1**, attached to this decision.

Principal issues in contention

58. After analysis of the application and evidence (including proposed mitigation and compensation measures), undertaking a site visit, reviewing the s42A report and recommendation, reviewing the submissions and concluding the hearing process, the proposed activity raises a number of issues for consideration. We have synthesised the principal issues in contention into several pivotal questions that we needed to ask and answer in determining the application. These key questions are:

- *Can the adverse effects of vegetation removal be offset or compensated, and is the compensation proposal sufficient?*
- *Will the Kauri dieback measures prevent the pathogen being released from the site into the surrounding environment and, if not, what level of release (if any) is acceptable?*
- *Have the cultural effects on Mana Whenua been appropriately addressed?*
- *Was the applicant's process of considering alternative sites sufficient and robust, and what regard should be had to potential alternative sites?*
- *Has the site layout for the replacement WTP and reservoirs been optimised to reduce the loss of high value native vegetation?*
- *What is the significance of the designation?*
- *Where does the proposal sit in terms of the AUP objectives and policies?*
- *What are the positive effects of the proposal and how do they weigh in the overall assessment?*
- *Are consents required under the NES-F and does the proposal align with the NPS-FM*
- *Does the application pass through the s104D gateway for non-complying activities?*
- *Is the proposal consistent with the Waitakere Ranges Heritage Area Act 2008?*
- *What other matters are relevant in reaching a decision on the application?*

59. We note that the application raised a wide range of issues, and those that we have identified above represent our view on the issues that were contentious and needed to be considered and determined in order to make a decision on the application. There were a number of other matters that were largely technical in nature, were not in contention, and could be satisfactorily addressed through conditions of consent. Examples of these matters include geotechnical, groundwater, traffic, construction noise, and ground contamination.

60. While we do not expressly discuss such matters in this decision, they were considered by us and we have read all relevant technical reports and evidence to confirm that related effects can be appropriately addressed through the conditions imposed on the resource consents. We have identified these matters at this point of our decision to explain why they are not discussed in more detail in subsequent sections.

Main findings on the principal issues in contention

61. Our main findings on the principal issues that were in contention are set out below.

Can the adverse effects of vegetation removal be offset or compensated, and is the compensation proposal sufficient?

62. The applicant has acknowledged that the proposal will give rise to residual adverse ecological effects once mitigation is undertaken.[12] That is to be expected given the scale of vegetation removal that is proposed.

63. The applicant has sought to address these residual adverse effects primarily through a compensation package comprised in the WBMP. That initiative seeks to provide $5 million funding for weed and pest control over a 990ha area of the Waima catchment, under the governance of a charitable trust. The funding is estimated to be sufficient to enable the Trust to carry out its work for a period of at least 10 years.

64. We were provided with extensive evidence on this matter, addressing the legitimacy and appropriateness of using compensation in these circumstances; whether the package was offset mitigation or compensation; the effectiveness of the specific pest control proposals; whether the compensation package would be sufficient to offset the effects; and whether the quantum of funding was adequate and the governance mechanisms effective.

65. We accept that the WBMP may not be offset mitigation, but it does provide environmental compensation. However, we were persuaded that the distinction is largely semantic and there is scope under both the RMA and the AUP for this kind of compensation package to be utilised in relation to a resource consent application. We note in this regard the effects management hierarchy set out in Policy D9.3.1 and AUP Appendix 8 (Biodiversity offsetting). We were also

[12] Evidence in chief of Dr Flynn, at 7.11

cognisant that Dr Ussher for the Council was comfortable with the validity of the approach.[13]

66. Particularly in respect of infrastructure projects, there is potential for adverse effects to arise that cannot be avoided, remedied or fully mitigated, where those effects are associated with a proposal that should proceed because it is in the public good and provides significant positive effects. That is essentially the situation that arises in relation to the current resource consent application. Environmental compensation has a place in such relatively rare circumstances and we consider it to be an appropriate response that should at least be assessed on its merits.

67. While he acknowledged that compensation could be considered, Mr Gray on behalf of DoC was of the opinion that offsetting rather than compensation was required in order to be consistent with Policy 9.3.1.[14] We do not agree. In the end, we are persuaded that the compensation package comprised in the WBMP (irrespective of whether it is compensation or offsetting) is an approach that is legitimate and enabled by the RMA[15] and the AUP.

68. The more important questions to be answered are whether the compensation package would be effective in terms of its environmental enhancement goal and whether the anticipated benefits would be sufficient to offset the adverse effects that would occur as a result of vegetation removal required for the WTP project.

69. While we heard evidence from the submitters about the potential for governance issues or lack of take-up from landowners, there was little suggestion that the measures that would be enabled by the WBMP would not lead to a positive environmental outcome. It is accepted that there may be some governance issues, as there could be with the operation of any trust, but the proposed mix of trustees and the trust deed suggest to us that there is a likelihood that the Trust would not be encumbered or obstructed from performing its intended function.

70. Furthermore, we also recognise that some landowners will choose not to participate in the project and allow access onto their land for pest and weed control, but anticipate that the number of non-participants will not be so great as to hamper the overall success of the WBMP.

71. Dr Martin for DoC considered that a biodiversity offset accounting approach was more appropriate and should be utilised. We were not persuaded on that point. We noted Mr Loutit's submissions on this matter and agree that the offset accounting approach has the potential to add a level of complexity to the evaluation exercise that is unnecessary and would add little in the way of assistance to our decision-making. We have been able to consider the adverse ecological effects of the vegetation clearance that is proposed, and evaluate those

[13] Dr Ussher, ecological compensation memo dated 14 April 2021, at 18(d)
[14] Evidence of Mr Gray for DoC, at paragraph 8.7
[15] S104(1)(ab) RMA

effects against the positive ecological effects of the WBMP. Our conclusion is that the positive effects would be at least commensurate with the adverse effects in terms of ecological values.

72. In this respect we accept the evidence of Dr Flynn where she is of the opinion that the compensation package will result in ecological benefits which are at least commensurate with adverse effects on indigenous biodiversity arising from the permanent loss of 3.5 ha of vegetation and habitat that is under substantial pressure from pest species.[16] Her position is supported by Dr Ussher, where he confirmed his opinion that the ecological compensation package will provide enhancements that are at least commensurate with the values proposed to be removed from within the project footprint.[17]

73. The conclusions above are also relevant to the amount of funding that the applicant has committed to provide. Several of the submitters called for more funding or for a compensation package that would remain in place in perpetuity, if consent were to be granted. We consider that the amount of funding must be determined in the context of the adverse residual ecological effects that remain once all mitigation is applied. In this instance, we are satisfied that the amount of funding is sufficient to create positive biodiversity effects that at least offset the adverse effects that will arise.

74. Further funding (and/or a longer period over which benefits are applied) would be desirable of course, but we consider such additional investment could not be required of the applicant as the adverse effects will be offset with the offer that forms part of the application. That is as far as we can go as a decision-making panel and, in any case, is sufficient in the circumstances.

Will the Kauri dieback measures prevent the pathogen being released from the site into the surrounding environment and, if not, what level of release (if any) is acceptable?

75. Management of Kauri dieback disease became a central point of contention between a number of the submitters and the applicant. It was addressed by a number of expert witnesses. Kauri dieback was also an evolving issue through the course of the hearing, with the application and primary evidence based initially on an assumption of infection on the site but no testing. By the completion of the hearing, we had comprehensive testing results that confirmed the presence of Kauri dieback disease on the site and on reserve land that lies within 100m of the site's southern boundary.

76. While the breadth and amount of evidence was substantial, the point of difference between the position of the applicant and that of the opposing submitters can largely be characterised by the level of risk that might be tolerated. The submitters consider that no level of risk of Kauri dieback spread should be accepted, while the

[16] Evidence of Dr Flynn dated 4 February 2020, at paragraph 8.19
[17] Dr Ussher technical memo dated 14 April 2021, at paragraphs 2 and 17

applicant seeks to manage (but not necessarily eliminate) risk through strict site management protocols and practices.

77. We did not doubt the expertise of the submitters' respected witnesses in relation to the pathogen and the way it behaves, but ultimately our decision hinged on a policy rather than scientific issue related to tolerance for risk.

78. We are aware that Kauri dieback disease is a significant threat to our native forests, particularly in the more intensively settled parts of the Waitākere Ranges. Kauri trees are iconic in these environments and are recognised as a taonga. The urgency of the situation has shaped the AUP provisions and the management practices adopted when assessing applications for resource consent, and is driving research in the hope that more effective prevention tools can be identified.

79. Set against this background, we are acutely aware of the importance of this issue and the need to manage the spread of the disease to 'buy time' for remedial or preventative tools to be developed.

80. Our thought process for considering this issue was firstly to determine the level of risk that should be tolerated, and then assess whether the applicant's proposals meet the risk threshold that we have determined to be appropriate.

81. Guidance for determining the level of risk can be obtained from the AUP, and from the current practices of the Council with regard to management of Kauri dieback disease. The AUP objectives and policies address this issue primarily through Policy E11.3(6A), which seeks to recognise and provide for the management and control of kauri dieback disease as a means of maintaining indigenous biodiversity. Our reading of this policy is that it does not require absolute avoidance of risk, but rather seeks to manage the risk.

82. That appears also to be consistent with Council's practice for dealing with other vegetation removal or land disturbance activities in the SEA overlay, where works can occur subject to strict conditions relating to disposal of vegetation and soil, and management of potential vectors for movement of the disease. For example, there are a number of permitted activities that enable vegetation removal in the SEA overlay, and up to 300m^2 of vegetation removal for a building platform and access way within a SEA overlay is provided for as a controlled activity. The General standards applying to permitted, controlled and restricted discretionary activities require retention of Kauri material on site within three times the radius of the canopy dripline of the tree, or alternatively disposed of to an approved landfill facility.

83. It is clear from these AUP provisions that a threshold of zero risk is not applied to a range of other land disturbance activities that can occur in the SEA overlay. We acknowledge that the scale is clearly different, but the principle must be the same given that any activity that disturbs soil or vegetation creates an opportunity for spread of the disease. Although the implications of further or accelerated spread of Kauri dieback disease are grave, the AUP provisions effectively acknowledge

that Kauri dieback is already present in urbanised areas of the Waitākere Ranges where a range of daily human activities have the potential to spread it further or faster.

84. We agree with the submitters that a zero-risk approach does not allow for the site to be developed for the replacement WTP (or probably any other activity). If we reached a view that this was the appropriate threshold, then we would need to refuse consent because the expert evidence suggested that it is not possible to develop the site without the potential for at least some spread of the disease to occur. It follows then, in concluding that a zero-risk approach to Kauri dieback is not appropriate, that we have accepted that the works *may* result in spores being released beyond the site boundary.

85. A significant consideration for us in this regard is that the Biosense sampling and testing programme has identified that Kauri dieback pathogen is present already in the downstream environment, at least within 100m of the site but intuitively beyond that as well. In these circumstances, release of spores across the site boundaries or into the streams will not result in Kauri dieback being transferred into an environment that is currently free from the pathogen. While the spore concentrations might be greater, there will be no way of determining whether infection of a particular tree came from a spore released from the replacement WTP site, from another site, or from a spore that was already there in the soil around the roots of the tree.

86. Submitters also raised concern about the initial stages of work that require the formation of bunding around the work site, and the potential release of spores that may not be directed through the treatment devices and associated flow paths. We accept that there will be a short, staged period of isolated works to form those bunds, which will be progressively stabilised. However, as we note above, the AUP already provides for earthworks of a similar scale, subject to the implementation of kauri dieback protocols. Those protocols do not require full risk avoidance.

87. The land disturbance activities associated with the proposed replacement WTP would occur at a significantly larger scale than those related to other forms of land disturbance that the AUP anticipates in this general location. That provides potential for higher concentrations of spores to leave the site through such vectors as water discharge, truck movement and so on. We consider that these circumstances fully justify a stringent and rigorous approach to management of activities occurring during the construction phase of the project.

88. We agree with evidence from a number of the submitters' Kauri dieback witnesses about the challenges for containment of the disease. The evidence of Dr Waipara, Dr Williams and others described the ease with which the pathogen can spread. The applicant has also recognised many of the vectors for transmission and has sought to address these through the KDMP and proposed conditions of consent. The KDMP is provided in draft form but constitutes a management response that

can be updated and amended as new information, methodologies or approaches become available.

89. The applicant has proposed the KDMP and related conditions of consent to manage risk associated with Kauri dieback spread. The conditions and KDMP have been reviewed by Dr Fea on behalf of the Council. Dr Fea has identified a number of beneficial amendments to the draft KDMP and sought a change to a proposed condition requiring that the final KDMP be provided to Council for 'approval' (rather than 'certification', which is the normal standard). We note in that regard that the applicant accepted the need for Council 'approval' in this instance and we have also reached a view that this is the appropriate threshold.

Have the cultural effects on Mana Whenua been appropriately addressed?

90. In her supplementary evidence, Ms Urquhart concluded that mitigation and management measures proposed as part of the application are generally consistent with the proposed mitigation measures and recommendations set out in the CIA.[18]

91. These measures and protocols relate to protection of native biodiversity and freshwater values including riparian and enhancement planting, daylighting and erosion protection for sections of the streams on site, and a protective covenant over existing high value SEA vegetation to be retained along with the proposed stream and riparian restoration planting areas. Further, Te Kawerau ā Maki representation is provided for on the Trust responsible for implementing the WBMP (condition 83).

92. We therefore concur with Ms Urquhart with regard to consistency with outcomes sought in the CIA, and note that Mr Ashby acknowledged that the applicant has agreed to the offsets recommended in the CIA.[19]

93. The outstanding matters as we understand them are the KDMP, disposal of material offsite and the ability of stormwater management to prevent further spread of *Phytophthora agathidicida* ("**Pa**").

94. The Cultural Management and Engagement Plan ("CMEP") as now proposed (condition 95) widens the scope of the conditions originally proposed. This plan is to be prepared in collaboration with Te Kawerau ā Maki to provide for ongoing engagement throughout the detailed design and construction of the project. It requires Te Kawerau ā Maki involvement in the preparation and implementation of the EMP, KDMP, AMP, FBR and SRP and provides a framework for further engagement in other areas of the project.

95. Condition 24 requires that the KDMP shall be prepared in consultation with DoC, the Royal Forest and Bird Protection Society of New Zealand, the Auckland Conservation Board and Te Kawerau ā Maki. Dr Flynn's reply evidence and final

[18] Supplementary evidence of Ms Urquhart, dated 24 February 2020, at 3.26
[19] Evidence of Mr Ashby, dated 12 April 2021, at 6.8

legal submissions from Mr Loutit confirmed and reiterated that Te Kawerau ā Maki's role would be intrinsic to the KDMP. We consider this condition now appropriately addresses the issue raised by Mr Ashby with regard to involvement in the development of the KDMP.

96. With regard to stormwater management, we note that Te Kawerau ā Maki involvement through the plans listed above under the CMEP will provide for monitoring of freshwater ecology and input into stormwater treatment and design. The application seeks to manage potential for spread of Pa via stormwater through limitations on the area of open ground at any one time and through excavation of soil to a depth that will remove most (but perhaps not all) of the pathogen. We have accepted that there is still some risk of spread downstream but consider that the risk should be seen in the context of streams where Pa is already present.

97. The proposed CMEP (refer condition 95) also specifically provides for Te Kawerau ā Maki input in the selection of a preferred disposal facility to receive fill material that is removed from the site (this matter is detailed in Condition 60 which we discuss further below). In addition, condition 96 requires amendment of the CMEP to reflect any comments following Te Kawerau ā Maki's review, where appropriate, noting where and why recommendations were or were not adopted.

98. We consider that the matters raised by Mr Ashby relating to observation of tikanga in the context of the rāhui, primarily around the disposal of soil, have been addressed to the extent practicable by condition 95(e) and condition 60. This latter condition requires organic material and surface subsoil to be disposed of to an appropriate facility approved to receive material containing Pa. The location of such disposal site(s) shall be determined in collaboration with Te Kawerau ā Maki and, subject to gaining the necessary approvals, shall be within the local area. Where this is not possible, then an alternative disposal location shall be determined in collaboration with Te Kawerau ā Maki. The condition is accompanied by an advice note identifying the applicant's existing Parau sludge disposal site as a potential preferred location. We note that the Parau site sits within the affected wider catchment and within the rāhui area. Therefore, subject to the Parau Landfill becoming an approved facility, this solution will be consistent with the purpose of the rāhui and provide for the kaitiaki obligations of Te Kawerau ā Maki and associated cultural values as identified in the CVA, CIA and Mr Ashby's evidence.

99. Overall, we find that the CMEP condition and condition 95(e) in particular will appropriately address and respond to potential effects on cultural heritage generally and the rāhui. We therefore do not agree with Mr Blakey that the proposal could be inconsistent with the relevant mana whenua objectives and policies of the AUP, and B6 of the RPS. Subject to the imposition of the conditions we have discussed, the proposal will appropriately recognise the relationship of Te Kawerau ā Maki with the Waitakere Ranges Heritage Area and their exercise of kaitiakitanga as required by the Waitākere Ranges Heritage Area Act (2008) s7(2)(j), s29, and s33. This will require an ongoing relationship between the

applicant and Te Kawerau ā Maki, and we are satisfied that the conditions impose an obligation on the applicant to engage and foster that relationship.

100. We concur with Ms Baverstock that the proposal is consistent with NPS-FW objectives and policies relating to Te Mana o te Wai and tangata whenua generally, due to the range of management measures and protocols proposed. These include measures such as riparian and enhancement planting, daylighting and erosion protection works in the sections of streams on the project site, the CMEP condition providing for Te Kawerau ā Maki involvement in the preparation of the final EMP, and representation on the Trust responsible for implementation of the WBMP.

Was the applicant's process of considering alternative sites sufficient and robust, what regard should be had to potential alternative sites?

101. It is understandable that many of the submitters, and the applicant's experts, traversed the issue of alternative sites. Where an activity is proposed that will have acknowledged adverse effects there will be a natural tendency to consider whether those effects could be better managed on another site. Indeed, there are statutory requirements for describing alternative locations or methods for undertaking an activity sought through a resource consent application[20] and for determining whether adequate consideration has been given to alternative sites or methods of undertaking the work (albeit in respect of a proposal for a new designation).[21]

102. We agree that the question of alternative sites is a relevant and appropriate matter for us to consider. If there is not scope for that consideration under Schedule 4 of the RMA, then certainly it is open to us to consider it as a matter under s104(1)(c).

103. The evidence on this matter covered two main themes.

104. The first of these themes arose from submitters' questions about the adequacy, robustness and integrity of the applicant's site selection process. Mr Kitson was the chief protagonist amongst the submitters in this regard, with his comprehensive and detailed evidence setting out a number of alleged flaws in the applicant's process. The implication from Mr Kitson was that the replacement WTP site did not objectively rank top of the applicant's list of options, but was instead selected as a result of political 'interference' in the process.

105. The second theme related to suggestions that the WTP did not need to be positioned within the narrow band of ground elevation that was sought by the applicant, which would open up an array of alternative sites in industrial locations (although pumping would need to be utilised extensively).

106. We have considered the relevance of the claims by Mr Kitson (and others) regarding poor process in the applicant's site selection. We have balanced that with our review of the rebuttal provided by the applicant through the reply evidence

[20] RMA Schedule 4, 6(1)(a)
[21] RMA s171(1)(b)

of Ms Baverstock, Ms Linzey, and in counsel's submissions. While there is no doubting the lengths that Mr Kitson has gone to in order to uncover some deficiencies, we found none that were so fundamental to cause us to see this as fatal in some way to the robustness of the site selection process undertaken by the applicant.

107. More importantly, we also consider that there is no requirement for us to be able to conclude that the replacement WTP site is the best possible site. If there are statutory requirements in this respect, it is clear that they require only that the applicant has given consideration to alternative sites or means of achieving its objectives. That is clearly the case, as the process adopted by the applicant canvassed a significant number of possible sites and included a lengthy and detailed consideration of the options. Whether the selected option is the best available option is not for us to say. Our sole obligation in this respect is to confirm that an assessment of alternatives has been undertaken, and the evidence that was put before us confirmed that it had.

108. For these reasons, we have determined that allegations of deficiencies in the applicant's site selection process are not relevant to our decision-making task and do not assist us with it. We take that matter no further.

109. With regard to the second theme, the applicant's evidence was that the WTP needed to be located at an elevation between 107mRL and 125mRL.[22] It was explained to us that the specific elevation enabled the distribution of raw and treated water to occur largely via gravity, with minimal pumping required in the piped network. Mr Bourne told us that this has significant advantages for the resilience of the water treatment and distribution system and is the ideal engineering solution when designing a network of this nature. The applicant highlighted the issue of resilience on numerous occasions during the hearing, citing the recent drought event in Auckland as a reason for ensuring that infrastructure is resilient to climate change and natural hazards.

110. When addressing this matter in his reply evidence, and in his answers to our questions, Mr Bourne acknowledged that some use of pumps would still be required in the distribution network of treated water, as it is to move the raw water from the dams to the WTP. However, he maintained that reliance on significant pumping of water is a poor outcome and creates a water treatment and supply system that is susceptible to interruption and failure as it relies heavily on pumps to move water through the pipes.

111. In contrast, the submitters told us that pumping of water is not unusual in treated water distribution networks. We were pointed to the use of pumps to move treated water from the Waikato River WTP at Tuakau given that the water source is from a river close to the coast and not elevated dams.

[22] Evidence of Mr Reed dated 4 February 2020, at 7.4

112. It was clear to us from both the lay evidence of the submitters and from Mr Bourne's own acknowledgement that it would be possible to have the WTP at a lower elevation and use a distribution network that relies heavily on pumping. However, we do see significant advantages in enabling a treated water distribution system that is largely gravity operated. That is particularly the case in our view when that system is likely to be in place for many decades once established so that the benefits are felt over a considerable period of time. We also consider that the existence of parts of the current distribution system that rely on pumping (the aforementioned Waikato River WTP for example) tends to militate for a more resilient component of the same system rather than suggest that more pumping is acceptable.

113. In any event, the issue of alternative sites is somewhat problematic for us as a panel appointed to determine these resource consent applications. We have insufficient information on other options to reach any firm views on their merits and have no power to direct the applicant to pursue any of them. Our jurisdiction extends only to consideration of the applicant's current resource consent applications and making a decision on them. In that context we could only refuse the applications, but that would not ensure that any particular alternative option was then taken up.

114. We have not reached a view that the assessment of alternatives is irrelevant. On the contrary, we consider that it would be remiss of us as a consenting panel to ignore the question altogether given that the proposal seeks to clear 3.5ha of protected indigenous vegetation and give rise to other significant adverse effects. We consider that this is a matter that is relevant and reasonably necessary to determine the application under s104(1)(c), but our conclusion is that the applicant has sufficiently considered other alternative sites and options to at least the extent required of it under the law. We are satisfied that the assessment has been properly carried out.

Has the site layout for the replacement WTP and the position of reservoirs been optimised to reduce the loss of high value native vegetation?

115. A more fundamental consideration for us was confirming that a robust site optimisation process had been undertaken on the replacement WTP site and the Reservoir 1 and 2 sites, so that we could be satisfied that the vegetation removal and stream reclamation was necessary and the extent was minimised. On the basis of the evidence provided by the applicant's witnesses, in particular Mr Bourne and Mr Finlayson, we are satisfied that the WTP footprint has been efficiently designed at a concept stage. Mr Finlayson opines that the site layout represents the minimum practicable footprint for this WTP at this concept level. He is supportive of the applicant's proposed condition to further refine and reduce the site layout's impact.[23]

[23] Evidence of Mr Finlayson dated 4 February 2020, at 7.6

116. Building on the applicant's intention to further refine the site layout design, and in response to questions we raised around site optimisation for the WTP and reservoirs, the applicant has proffered conditions which require the site optimisation process to continue as part of the detailed design (refer conditions 10 to 12).[24] These conditions require the preparation of an Optimised Site Layout Report (OSLR) to be submitted to the Council for approval. The intent of the OSLR is to identify, as far as practicable, ways to reduce the extent of vegetation removal and the effects on native trees, including Kauri.

117. In order to add greater specificity to matters we raised through the hearing, we have added to Condition 12 that an assessment (including recommendation and supporting rationale) be made of removing the historic Huia Water Treatment Plant buildings if this would result in a significant reduction of native vegetation removal through an alternative layout for Reservoir 2. Furthermore, we have added that uses of the site, including car parking and administrative functions, be restricted to those which are essential to the safe and efficient operation of the treatment plant. We have also added to the condition to require an independent peer review of the conclusions and recommendations of the OSLR to be undertaken and submitted to Council with the OSLR.

What is the significance of the designation?

118. The site is subject to a designation in the AUP, with its purpose being stated as '*Water Supply purposes – Huia and Nihotupu water treatment plants and associated structures.*' The designation reference is 9324, and it has been in place in successive district plans for around 50 years. The applicant advised us that the designation has been the subject of a legal challenge with regard to its status, with the outcome being that the Environment Court and High Court have confirmed that the designation authorises the construction of a replacement WTP.[25]

119. Broadly speaking, the effect of a designation is that the provisions of a district plan do not apply in relation to designated land, provided that the land is used for the designated purpose.[26] Instead, the requiring authority must submit an Outline Plan of Works to the territorial authority in accordance with s176A of the RMA, in order to allow the territorial authority to request changes before the commencement of construction. We were advised that the applicant has submitted an OPW and is awaiting a response from the Council.[27]

120. While land use consents under a district plan are not required for works in accordance with a designation, consents under a regional plan or under national environmental standards must still be obtained where required. In the case of the applicant's proposal, these consents relate to such matters as vegetation removal

[24] Rebuttal evidence of Ms Baverstock dated 16 April 2021, at 4.12 to 4.15
[25] *Titirangi Protection Group Inc v Watercare Services Ltd* [2017] NZEnvC 181; and *Titirangi Protection Group Inc v Watercare Services Ltd* [2018] NZHC 1026
[26] S176(2), RMA
[27] Applicant's reply submissions, at 8.4

and bulk earthworks (which are controlled by regional rules in the AUP) and to soil contamination under the NES Soil.

121. In this context, the question arises as to what (if any) relevance is the presence of a designation to our assessment of consents required under regional plans or national environmental standards. In other words, should we give any weight to the designation in reaching a view on the applications.

122. We posed questions of this nature to a number of the planning witnesses and legal representatives throughout the course of the hearing. Mr Loutit submitted that the designation is a relevant matter for our consideration under s104(1)(c) of the RMA,[28] which states that a consent authority must have regard to any other matter it considers relevant and reasonably necessary to determine the application.

123. Having considered the responses we received in relation to this issue, we have reached a view that the presence of the designation is a relevant factor and that s104(1)(c) entitles us to consider it. There has been a signal for several decades that the land is earmarked for substantial public works, although admittedly the litigation in relation to this matter suggests that the signal could have been a little clearer. While we consider that the designation is a contributing factor in our decision to grant consent, it is certainly not determinative in isolation. Rather, it is simply another matter that supports a conclusion that consent is appropriate in the circumstances.

124. A peripheral matter in relation to the designation arose from several of the residents of Manuka Road, who live below and to the south of the replacement WTP site. Their evidence suggested that misleading (or at least confusing) responses were received from Council when enquiring as to the status and purpose of the designation at the time when some were purchasing their properties. It was alleged that the advice received was that the replacement WTP site was designated as regional parkland.

125. While we have some sympathy for the position those submitters find themselves in, the veracity of information provided by the Council is not a matter that can influence our decision on the applicant's resource consent application. If that information was inaccurate, then there may be legal recourse open to the affected submitters. However, the fact remains that the designation has been in place on the land for many years and the purpose of that designation has not changed. We are required to assess the applications in that context.

Where does the proposal sit in terms of the AUP objectives and policies?

126. The extensive nature of the works proposed as part of the replacement WTP project is such that a number of objectives and policies of the AUP are engaged. In particular, the vegetation clearance within the SEA requires consideration in the context of the objectives and policies from Chapter D9, and the Kauri dieback

[28] Applicant's reply submissions, at 8.2

issues require consideration under Chapter E11. The objectives and policies of both of these chapters need to be balanced with those from Chapter E26, which relate to the provision of infrastructure.

127. Our discussion around the objectives and policies considers where the proposal sits in relation to those provisions. We need to ascertain whether the proposal is consistent with, inconsistent with, or contrary to the objectives and policies of the AUP in order to reach necessary conclusions under both s104 and s104D of the RMA. The Chapters containing the relevant objectives and policies are identified earlier in this decision.[29] We discuss them below, focusing firstly on those that were most contentious during the hearing or are central to the decision we have made.

128. Kauri dieback was a source of much debate and expert evidence throughout the hearing. The AUP policy that most directly relates to the kauri dieback issue is Policy E11.3(6A), which states:

> *Recognise and provide for the management and control of kauri dieback disease as a means of maintaining indigenous biodiversity.*

129. We have given this policy considerable thought, due to its pivotal nature with regard to a major issue of contention. We note that the policy seeks to provide for the "*management and control*" of kauri dieback. It does not require or imply complete risk avoidance. The applicant has put forward a comprehensive and robust methodology for managing and controlling the spread of the disease from the site, through the KDMP and the suite of related conditions.[30] We are satisfied that this approach is one that is consistent with Policy E11.3(6A).

130. The objectives and policies in AUP Chapter E26 address infrastructure. The explanation to the chapter sets out that infrastructure is critical to the social, economic, and cultural well-being of people and communities and the quality of the environment, but also notes that infrastructure can have a range of adverse effects on the environment, the visual amenity of an area, and public health and safety.

131. Objectives set out in E26.2.1 include that the benefits of infrastructure and the value of existing investment are recognised; that safe, efficient and secure infrastructure is enabled; that development, operation, maintenance, repair, replacement, renewal, upgrading and removal of infrastructure is enabled; and that the resilience of infrastructure is improved and continuity of service is enabled. All of these outcomes are set against an objective that the adverse effects of infrastructure are avoided, remedied or mitigated.

132. These overall objectives are to be achieved through a number of policies, including Policy E26.2.2(1), E26.2.2(2), E26.2.2(4), E26.2.2(5), and E26.2.2(6). These

[29] At paragraph 48

[30] We record that the KDMP and conditions relating to Kauri dieback benefitted from review and input from Council's Kauri dieback specialist, Dr Fea, and others.

policies are reproduced in the s42A report, where they are discussed at length. The policies are detailed and direct in the way that they have been drafted, which is of assistance to us in a situation with competing factors such as the application we are required to determine.

133. There are some notable elements of these policies, which have been instructive in our considerations. Policy E26.2.2(2) recognises that infrastructure may have functional and operational needs, together with location, route and design needs and constraints. This is the case in respect of the replacement WTP, which requires (or at least significantly benefits from) a specific elevation, and its location is linked to the location of the four existing dams at Huia and Nihotupu, the existing or proposed pipeline infrastructure that connects those (such as the NH2 watermain), and the area of north and west Auckland that will be served by the WTP.

134. We are aware of the High Court's recent decision in respect of the East-West Link project.[31] Mr Blakey pointed us to paragraphs in that decision that we have found to be instructive. Most notably, the Court concluded that infrastructure cannot be contrary to the objectives and policies of the AUP because of the effect of Chapter E26.[32] While that finding was made in the context of s104D RMA, it nonetheless has assisted us in understanding that the objectives and policies of the AUP acknowledge that infrastructure may be acceptable even where it has significant adverse environmental effects.

135. Policy E26.2.2(4) requires mitigation of adverse effects on the values for which a site has been incorporated into an overlay, in this case the SEA, and also seeks mitigation of effects on the amenity values of the streetscape and adjoining properties. We are satisfied that the adverse effects on the terrestrial ecology values of the site, as expressed through the SEA overlay, are at least offset to a commensurate level by the WBMP compensation package. With regard to the amenity of the most affected neighbouring property owners (in Manuka Road), we consider that the buffer of enhanced vegetation that will remain around the southern and western parts of the replacement WTP site will mitigate the effects of vegetation removal and earthworks to a reasonable and acceptable level.

136. Policy E26.2.2(5) seeks that the effects of infrastructure be considered in the context of several identified matters, including the degree to which the environment has already been modified, and the benefits provided by the infrastructure. The project site as a whole contains numerous buildings and areas of development related to the existing WTP and the associated facilities. Even the replacement WTP site is not without modification, with remnants of the former sludge dam being present and clearings within the vegetation cover identifying the sites of former housing associated with the WTP. The modification and use of the site are

[31] *Royal Forest & Bird Protection Society of NZ* v *NZTA* [2021] NZHC 390
[32] Ibid, at [69]

reflective of its designation, and its acknowledgement as a site providing public water supply infrastructure for the Auckland area.

137. Specific consideration of infrastructure within overlays containing natural heritage or natural resources values is provided for under Policy E26.2.2(6). This policy recognises that infrastructure may need to be provided in locations with such values, and provides some guidance for resolving the inherent tension that arises between competing objectives.

138. The policy enables consideration of matters such as the functional or operational need for the infrastructure to be in the chosen location, its economic, cultural and social benefits, its contribution to the planned growth and intensification of Auckland, and whether there are any practical alternative locations or designs that would avoid or reduce adverse effects on the values that have underpinned the overlay. Policy E26.2.2(6) also requires consideration as to whether adverse effects on the identified feature (in this case, the indigenous vegetation comprised in the SEA overlay) must be avoided under a NPS, NES or the RPS.

139. As we have noted, we consider that the replacement WTP is an important component of public water supply infrastructure, with significant benefits particularly with regard to resilience but also through its ability to serve regional growth and intensification because the capacity of the plant would increase. We are satisfied that the proposed WTP has an operational and functional need to be in this location if a more resilient supply of treated water is to be provided. Alternative locations have been well-canvassed although the policy states that consideration of alternatives should have regard to the benefits of the project and the functional and operational requirements for the selected location.

140. The policy also requires consideration of whether adverse effects on the values of the site must be avoided under national or regional policy direction. As we discuss later in this decision, the proposal is able to mitigate stream reclamation works in a way that satisfies the NPS-FM and the NES-F. The RPS provisions are also of interest in this case as they seek to avoid "*where practicable"* adverse effects on identified natural values.[33] That suggests to us that there is recognition that adverse effects may arise in relation to infrastructure projects and that such adverse effects may not have to be avoided if that is not practicable and there are compelling reasons for the infrastructure to be established.

141. Having considered the proposal against all relevant objectives and policies from the AUP, we are of the view that the application is consistent with the overall policy thrust. While there are outcomes that do not align with some of the policy provisions, the proposal clearly satisfies other policies. Overall, and assessed in the round, we consider that the proposal is consistent with the objectives and policies of the AUP. For completeness, we note that the application "*will not be*

[33] RPS Policy B3.2.2 (6)

contrary to" the objectives and policies of the AUP. As a consequence, it is able to satisfy one of the limbs of the s104D gateway for non-complying activities.

What are the positive effects of the proposal and how do they weigh in the overall assessment?

142. We find that there are several positive effects that will arise if the proposal proceeds.

143. Foremost amongst these is the provision of a new WTP to provide treated water from the four contributing dams at Huia and Nihotupu. The capacity of the replacement plant would be 140ML per day, an increase from the production capacity of the current plant. The new WTP will also be able to provide a treatment process that is more advanced, efficient and resilient, and a supply network that continues to be resilient because it transports the treated water primarily through the assistance of gravity. We consider these to be significant public benefits, which have become more sharply in focus in the age of climate change and resultant drought conditions in Auckland.

144. The WBMP will also give rise to positive effects through its objective of improving biodiversity and forest vegetation through pest control. While we accept that these positive effects are proposed only to offset adverse effects from vegetation removal on the project site, they are nonetheless positive outcomes that will be felt throughout the Waima catchment.

145. The restoration of the Nihotupu Filter Station, covenanting of remaining vegetation on the site, and vesting of Exhibition Drive to regional parkland[34] are further positive effects of the proposal.

146. At least some of these positive effects are pivotal to the outcome of the applications. In weighing all the matters to be considered, we placed significant emphasis on the public good elements of the resilient infrastructure that is proposed for the benefit of the region as a whole. That benefit was fundamental in our decision to grant consent to a finely balanced and challenging application. Without the public good element of this infrastructure, a proposal to clear 3.5ha of SEA would have no realistic chance of success and would run into impenetrable barriers when assessed against the objectives and policies of the AUP.

147. Similarly, we consider that the positive effects of the WBMP compensation package were an essential element of the success of the application. Without that, there would be no satisfactory means of counter-balancing residual adverse effects and the application would likely fail.

[34] All of the Reservoir 1 site, including that part of Exhibition Drive contained within it, is intended to be transferred to Council. The area that would be occupied by Reservoir 1 would be leased to the applicant.

Are consents required under the NES-F and does the proposal align with the NPS-FM?

148. We were advised that the NPS-FM and the NES-F were released in the intervening period between the hearing dates in 2020 and those in 2021. Because a decision on the applications was not made before the NPS-FM and NES-F came into effect,[35] they are relevant documents that we must have regard to under s104(1)(b)(i) and (iii).

149. The applicant addressed the relevance of the NPS-FM and the NES-F through submissions from Mr Loutit and supplementary evidence from Ms Baverstock and Dr Boothroyd. Mr Stansfield for the submitters prepared a brief written statement of evidence in reply to some of the matters covered in Dr Boothroyd's evidence.

150. We accept the evidence of Ms Baverstock and Dr Boothroyd that the proposal would align with the objective and policies of the NPS-FM, primarily because the on-site mitigation and the off-site compensation (downstream erosion protection works) mean that no net loss of freshwater ecological values would occur as a result of the stream reclamation that is proposed. We note also that the CMEP provides for Mana Whenua involvement in the freshwater management of the site, and that the project will allow the wider community to provide for its social, economic and cultural wellbeing. Mr Blakey agreed with Ms Baverstock that the proposal was consistent with the objectives and policies of the NPS-FM.[36]

151. Ms Baverstock's evidence was that no consents were required under the NES-F, as the proposed works were more than 100m from any area of natural wetland and the AUP rules relating to reclamation of streams prevailed over the standards of the NES-F.[37] Her evidence was uncontested in terms of the consenting framework.

152. In any event, Mr Loutit submitted that s43B(7) of the RMA means that resource consents would not be required under the NES-F even if standards were not met. That is because s43B(7) states that a consent prevails over a NES if it was the subject of a notification decision before the NES is notified in the Gazette. While the drafting of that section of the RMA could perhaps have been clearer, it appears at face value to obviate the applicant in this case from needing to seek additional resource consents under the NES-F. We consider that is the case and accept that consents under the NES-F are either not required because the standards are met (as opined by Ms Baverstock) or are not required because the AUP provisions prevail. As Mr Loutit noted, even if that were not the case, the applicant could simply seek those additional consents at a later date.[38]

[35] The NPS-FM and the NES-F came into force on 3 September 2020
[36] Mr Blakey, response to evidence memo, at paragraph 13
[37] Section 43B(1) of the RMA states that a regional rule prevails over a national environmental standard if the rule is more stringent (it is) and if the NES expressly provides for that (it does)
[38] Applicant's reply legal submissions, at 5.17

Does the application pass through the s104D gateway for non-complying activities?

153. The discussion above in relation to the objectives and policies of the AUP, and the effects on the environment, is instructive for the purpose of determining whether the application passes the gateway test for non-complying activities comprised in s104D RMA.

154. The proposal overall is a non-complying activity and, as such, consideration will need to be given to the gateway test contained in s104D RMA. In order for the application to pass the gateway test, we must be satisfied that the adverse effects of the activity on the environment will be minor or the activity will not be contrary to the objectives and policies of the AUP. Only one limb of the test needs to be met to provide jurisdiction to grant an application for a non-complying activity.

155. With regard to the first limb of s104D, we find that the application will give rise to adverse effects that are more than minor. That is a position that was uncontested throughout the hearing and was accepted by both Ms Baverstock and Mr Blakey. We note that only adverse effects can be considered under s104D, with no regard able to be given to the positive effects that are anticipated through the WBMP compensation package.[39]

156. The second limb requires us to be satisfied that the activity will not be contrary to the objectives and policies of the AUP. We are aware that the case law on this matter suggests that an activity will be 'contrary to' the objectives and policies of a plan if it is 'repugnant to' or 'opposed to' in nature, and that an overall assessment is required rather than an evaluation at an individual policy level. The proposal clearly has some tension with the objectives and policies relating to natural resources but finds support in others that recognise the importance of providing infrastructure. We are also able to consider the benefits of the proposal in our assessment of the objectives and policies, and the environmental compensation package tempers the conflict that may otherwise arise with a number of policies.

157. Overall, we are satisfied that the proposal passes through the second limb of the s104D gateway. As such, we have jurisdiction to consider the application under s104 and grant consent if that is the appropriate outcome in our judgement.

Is the proposal consistent with the Waitakere Ranges Heritage Area Act 2008?

158. The site is subject to the provisions of the Waitakere Ranges Heritage Area Act 2008, as it sits within the Heritage Area that was established under that Act. The WRHAA seeks to recognise the significance of the Heritage Area and promote the protection and enhancement of its heritage features.

159. The heritage features are identified in s7 of the WRHAA. The noted features include the public water supply system that has a long association with the Waitakere Ranges. We consider that the proposed WTP project will align with the WRHAA insofar as it maintains and enhances the water supply activity within the

[39] As acknowledged by Mr Loutit for the applicant in reply submissions, at 11.24

Heritage Area, and provides for restoration of the Nihotupu Filter Station building. Conversely, there are aspects of the proposal that undermine the identified heritage features, most notably in relation to the removal of 3.5ha of indigenous vegetation within the SEA overlay.

160. Overall, we consider that the proposal does not run counter to the purpose of the WRHAA as it provides for the continued association of public water supply infrastructure with the Heritage Area while adequately compensating for the adverse effects of vegetation removal through the WBMP initiative.

What other matters are relevant in reaching a decision on the application?

161. There are several other issues that need to be determined in reaching a decision on the application. Most of these relate to matters that are addressed through conditions, including the issues unresolved between the applicant and the Council with regard to the lapse and duration dates for some of the consents and the question regarding the Council's role to either 'certify' or 'approve' final management plans provided in response to conditions of consent.

162. We have agreed with the applicant's proposals for lapse and duration dates, which were only inconsistent with the Council's approach in relation to the 15-year duration sought for consent to divert and discharge groundwater. The Council considered that 10 years was appropriate, but we note that a 15-year period was accepted by the Council for other consents and we cannot perceive any significant difference.

163. We have carefully considered the issues raised by submitters in relation to traffic generation and safety, associated with construction traffic for earthworks and vegetation clearance. While we understand the concerns, we are comfortable that the effects can be appropriately managed through the transport-related conditions of consent that we have imposed. All of the expert traffic evidence that was presented to us was in agreement that traffic and transportation can be managed without giving rise to significant adverse effects.

164. Given the importance of the KDMP, we have decided that the Council should have a role to 'approve' this document. We have also reached the same view in relation to the design of the upgraded Scenic Drive/Woodlands Park Road intersection, in that case as the works are on public road and an engineering plan approval process would apply in any event. In most of the other instances where this issue arises, we have decided that a certification role is appropriate for Council in accordance with normal expectations.

165. Lastly, there was debate amongst the parties about whether approvals under the Biosecurity Act 1993 would be required due to the potential for Pa spores to leave the site. We have considered this issue but decided that there is no need for us to reach a view as to whether such approvals will be required. If the Biosecurity Act requires approvals for the anticipated works, then the applicant will need to obtain

those approvals. That is not unusual and is analogous to the future need to obtain building consents under the Building Act 2004.

Section 104(1)(c) 'other matters'

166. Section 104(1)(c) requires that a consent authority must have regard to any other matter it considers to be relevant and reasonably necessary to determine an application.

167. The Muddy Creeks Plan (which is a LAP prepared under the WRHAA) is relevant in this instance. We consider that the proposal is not inconsistent with the Muddy Creeks Plan as it provides for ecological compensation that equates to the loss of ecological values. The pest management outcomes in the LAP will be addressed by that aspect of the proposal.

168. There is less alignment with the Urban Ngahere (Forest) Strategy, which is primarily aimed at reducing loss of forest cover. The proposal does not contribute to that outcome in any significant way given the loss of indigenous vegetation cover. However, the Strategy is non-statutory and addresses an issue of regional concern with a relatively singular focus. We consider that needs to be balanced with other objectives in reaching a decision on the application.

169. We are also conscious of the Te Kawerau ā Maki rāhui, and recognise that this has been put in place to help the Ranges heal. However, Mr Ashby did acknowledge that there is a level of pragmatism regarding activities undertaken within the area subject to the rāhui and we perceive that there is scope for the project to progress if proper engagement with Mana Whenua is undertaken as anticipated through the conditions of consent and the applicant's own efforts and undertakings.

Part 2 RMA

170. Consideration of an application for resource consent is subject to Part 2 of the RMA.[40] Case law[41] has suggested that in most cases there is no need to refer back to the purpose and principles of the RMA in determining an application for resource consent in the context of a newly developed plan that specifically considers all Part 2 matters.

171. The AUP is a newly developed plan that has been prepared in a coherent manner that appropriately reflects Part 2. In these circumstances, we have decided that there is no need for us to have recourse to Part 2 and that an exercise of this nature would not add to our evaluation of the application. The matters that we would consider under Part 2 are already in front of us through the objectives and policies of the AUP.

[40] Section 104(1) RMA
[41] *R J Davidson Family Trust* v *Marlborough District Council* [2018] NZCA 316

Decision

172. In exercising our delegation under section 34A of the RMA and having regard to the foregoing matters, sections 104, 104B, 104D, 105, 107, 108 and 108AA and Part 2 of the RMA, we determine that the resource consent applications by Watercare Services Limited to undertake earthworks, vegetation removal and associated activities related to its proposal to establish a replacement Huia Water Treatment Plant at a site in Woodlands Park Road and Manuka Road, Titirangi, is **granted** for the reasons and subject to the conditions set out below.

Reasons for the decision

i. We find that the proposal will not be contrary to the objectives and policies of the AUP when assessed in the round, and it therefore passes the second gateway of s104D and we have jurisdiction to consider the application on its merits under s104.

ii. In terms of section 104(1)(a), we find that the proposal will have adverse effects on the environment that will be significant, particularly with regard to ecological effects arising from the removal of vegetation in the SEA overlay and stream reclamation. Some direct mitigation can be provided through replanting, covenanting remaining indigenous vegetation, revegetation on the site, and erosion control within the streams, but residual adverse effects would remain for the vegetation removal that could not be fully avoided, remedied or mitigated. The proposal will have inherent positive effects in providing a more resilient and efficient water supply for the people of the Auckland region.

iii. Under s104(1)(ab), the applicant has offered to provide an environmental compensation package (through the Waima Biodiversity Management Plan) that will create positive effects that are at least commensurate with the adverse effects that will arise. Additional positive effects are proposed by the applicant through restoration of the Nihotupu Filter Station and vesting of the Exhibition Drive land as regional park.

iv. Under s104(1)(b), we consider that the proposal will be consistent with the overall thrust of the objectives and policies of the AUP. While there is clearly some tension between the proposal and a number of the policies directed at protecting natural resources, the policies in Chapter E26 provide explicit recognition that infrastructure projects may need to locate in sensitive environments where they have an operational and functional need to do so. We are satisfied that this is one such case. Further, we consider that the policies relating to Kauri dieback disease require a management and control approach that the application is able to achieve.

v. The proposal will be consistent with the NPS-FM and NES-F, and requires no consents under the standards contained in the latter. The proposal also aligns with the NES Soil and Chapter B of the AUP, which contains the regional policy statement.

vi. In terms of 'other matters' under s104(1)(c), the proposal is generally consistent with, or does not offend, the outcomes sought within the relevant non-statutory planning documents, other than in respect of the Urban Ngahere (Forest) Strategy. The key issues raised in submissions, including that from the Local Board, have been addressed through the various technical assessments provided with the application and can be managed through the conditions of consent. It is recognised that the proposal may not fully align to the rāhui but the conditions as now drafted encourage the retention of organic material within the Waitākere Ranges which is consistent with the tikanga described to us by Mr Ashby. The ongoing engagement between the applicant and Te Kawerau ā Maki provided for in the conditions will enable this matter to be further addressed over the course of the Project.

vii. The proposal is, on balance, considered to be consistent with the purpose and principles set out in Part 2 of the RMA. While it does not avoid the creation of adverse effects on the environment including those that result in some associated social disbenefits for the surrounding community, and potential effects for local Mana Whenua, it will provide for a measure of additional social and economic wellbeing for the region as a whole, and includes enhancement measures for the surrounding catchment that will provide an appropriate level of compensation for the adverse effects on the ecology of the site.

viii. The proposal is consistent with the Waitakere Ranges Heritage Area Act 2008, as it provides for continued operation of the public water supply system (which is in itself a heritage feature under s7(2)(n) of the Act) in a way that does not diminish the overall ecological or other values of the heritage area.

Conditions

Under section 108, the grant of these resource consents is subject to the following conditions:

Definitions

"ACM" means Asbestos Containing Material;
"AMP" means Adaptive Management Plan;
"ARI" means Annual Recurrence Interval;
"ASCNVMP" means Activity Specific Construction Noise and Vibration Management Plan;
"ASDDP" means Armstrong Stream Daylighting Design Plan;
"AUP(OP)" means the Auckland Unitary Plan (Operative in Part);
"CCP" means Construction Communication Plan;
"CMEP" means Cultural Management and Engagement Plan;
"ChTMP" means Chemical Treatment Management Plan;
"CLG" means the Community Liaison Group;
"CNVMP" means Construction Noise and Vibration Management Plan;
"Commencement of construction" means commencement of any construction works for the Project. For the avoidance of doubt, it excludes site investigations, fencing, and any activities that do not need resource consent and/or are permitted activities;

“Consent Holder” means Watercare Services Limited;
“Council” means the Auckland Council;
“CTMP” means Construction Traffic Management Plan;
“DoC” means the Department of Conservation;
“DSI” means Detailed Site Investigation;
“FBR” means Freshwater Baseline Report;
“EMP” means Ecological Management Plan;
“ESCP” means Erosion and Sediment Control Plan;
“GD01” means the Council’s Guidance Document 001 ‘*Stormwater Management Devices in the Auckland Region’*;
“GD05” means the Council’s Guidance Document 005 ‘*Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region’*;
“GSMCP” means Groundwater and Settlement Monitoring and Contingency Plan;
“FMP” means Fauna Management Protocols;
“KCZ” means Kauri Contamination Zone;
“KDMP” means Kauri Dieback Management Plan;
“NES Soil” means the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, 2011;
“NHMRP” means Nihotupu Heritage Management and Restoration Plan;
“OMP” means Operation and Maintenance Plan;
“OSLR” means Optimised Site Layout Report;
“PIA” means Pavement Impact Assessment;
“Project” means the proposal as described in the documents detailed at Condition 2;
“RMA” means the Resource Management Act 1991;
“SEA” means Significant Ecological Area;
“SEV” means Stream Ecological Value;
“SEVP” means Stream Ecological Valuation Plan;
“SMP” means Site Management Plan;
“SRP” means Stream Restoration Plan;
“SVR” means Site Validation Report;
“WBMP” means Waima Biodiversity Management Plan;
“WTP” means Water Treatment Plant; and
“YSDDP” means Yorke Stream Diversion Design Plan.

A. General conditions

Commencement and duration

1. Pursuant to ss 123 and 125 of the RMA, the duration and lapse dates for the various resource consents shall be as set out in the table below:

Consent	Lapse Date	Duration (unless the consent has lapsed, been surrendered or cancelled at an earlier date)
Land use consents for land disturbance activities including earthworks, NES consent for disturbance of contaminated soils, and vegetation removal associated with replacement WTP and Reservoir 1.	10 years from commencement.	15 years from commencement.
Land use consents for land disturbance activities including earthworks, NES consent for disturbance of contaminated soils, and vegetation removal associated with Reservoir 2.	15 years from commencement.	20 years from commencement.
Land use consents for works in the bed of a watercourse including disturbance and construction and installation of structures.	10 years from commencement.	15 years from commencement.
Land use consents for reclamation and drainage in the bed of a watercourse.	10 years from commencement.	n/a
Consent to divert a river or stream to a new course.	10 years from commencement.	15 years from commencement.
Consents for diversion and discharge of stormwater.	10 years from commencement.	35 years from commencement.
Consents for diversion and discharge of groundwater.	10 years from commencement.	15 years from commencement.
Consent to discharge contaminants to land associated with the disturbance of potentially contaminated soil (WTP and Reservoirs 1 and 2).	10 years from commencement.	25 years from commencement.

Advice Note: The consents lapse in accordance with the above lapse dates unless, prior to the lapse date:

(a) The consent is given effect to; or

(b) The Council extends the period after which the consent lapses.

Development in general accordance with plans

2. The activities authorised by this consent shall be undertaken in general accordance with the information provided with the application, and all referenced by the Council as consent number **BUN60339273** as follows:

   (a) The information provided with the application as follows:

   - Assessment of Environmental Effects report, titled "*Huia Replacement Water Treatment Plant (WTP) Project*", Version V1, prepared by Tonkin & Taylor Ltd ("**T+T**"), dated 22 July 2019;
   - WTP Reservoirs Site Layout Development Report, prepared by GHD Ltd, dated May 2019;
   - Reservoirs storage, location and layout assessment, prepared by Beca Ltd, dated 22 May 2019;
   - Indicative design drawings, prepared by GHD Ltd, dated May 2019 (Rev 2);
   - Indicative Construction Methodology Report, prepared by Alta, dated 23 May 2019 (Rev 5);
   - Stormwater and Erosion and Sediment Control Report, prepared by Cook Costello, dated July 2019, Ref 14191;
   - Groundwater and Settlement Report, prepared by T+T, dated 24 May 2019, Ref 30848.2000;
   - Addendum to the Groundwater and Settlement Report, prepared by T+T, dated July 2019, Ref 30848.2000;
   - Preliminary Land Stability Assessment, prepared by T+T, dated 24 May 2019, Ref 30848.2000;
   - Addendum to the Preliminary Land Stability Assessment, prepared by T+T, dated July 2019, Ref 30848.2000;
   - Site Management Plan for Ground Contamination, prepared by T+T, dated May 2019, Ref 30848.2000v2;
   - Ecological Assessment, prepared by Boffa Miskell Ltd, dated 26 July 2019;
   - Traffic and Transport Assessment, prepared by Beca Ltd, dated 10 July 2019 (Rev 3.0);
   - Construction Noise and Vibration Assessment, prepared by Marshall Day Acoustics Ltd, dated 20 May 2019 (Rev 3); and
   - Draft Deed of Trust for the Waima Biodiversity Trust, prepared by Simpson Grierson, dated 23 May 2019.

   (b) The additional information provided by the applicant set out in the letter prepared by T+T, dated 13 August 2019, and the following attachments:

   - Appendix A – Stormwater Response, prepared by Cook Costello, dated 9 August 2019;

- Appendix B – Groundwater and Earthworks Response, prepared by T+T, dated 13 August 2019;
- Appendix C – Ecology Response, being a memorandum from the applicant's counsel regarding the Trust Deed dated 31 July 2019 and a memorandum from Boffa Miskell Ltd, dated 9 August 2019;
- Appendix D – Arborist Response, prepared by GreensceneNZ Ltd, dated 9 August 2019; and
- Appendix E – Transport Response, prepared by CH2M Beca Ltd, dated 9 August 2019.

(c) The Preliminary Site Investigation, prepared by T+T, dated September 2019 (Version 1.1), Ref 30848.2000.

(d) The additional information provided by the applicant set out in the letter prepared by T+T, dated 8 November 2019, and the following attachments:

- Attachment A – Regional stormwater and earthworks response, prepared by Cook Costello, dated 8 November 2019 and USLE calculations provided on 2 December 2019;
- Attachment B – Streamworks, terrestrial ecology and kauri dieback response, prepared by Boffa Miskell Ltd, dated 20 October 2019;
- Attachment C – Transportation response, prepared by CH2M Beca Ltd, dated 4 November 2019;
- Attachment D – Road stability response, prepared by T+T, dated 8 November 2019; and
- Attachment E – Social Impact Assessment response, prepared by Beca Ltd, dated 8 November 2019.

(e) The Addendum to Stream Ecological Value Plan, prepared by Boffa Miskell Ltd, dated 26 November 2019.

(f) The draft management plans provided with the applicant's evidence:

- Draft Groundwater and Settlement Monitoring and Contingency Plan (Rev 3), prepared by T+T, dated January 2020;
- Draft Construction Noise and Vibration Management Plan (Rev O), prepared by Marshall Day Acoustics, dated 4 February 2020;
- Draft Ecological Management Plan (Rev 1), prepared by Boffa Miskell Ltd, dated 4 February 2020;
- Kauri Dieback Management Plan, prepared by Boffa Miskell Ltd, dated 8 December 2020;
- Pest Management Strategy for the Waima BMP Area (Mitigation for Huia Water Treatment Plant Upgrade) (Rev 1), prepared by Boffa Miskell Ltd, dated 4 February 2020; and
- Draft Construction Traffic Management Plan (Rev 4.0), prepared by CH2M Beca Ltd, dated 4 February 2020.

(g) Huia Replacement Water Treatment Plant: Proposed Boundary Planting Plans, Drawing No A16055_000 to 003, 010, 011, 100 to 103 and 050, prepared by Boffa Miskell.

(h) Huia Replacement Water Treatment Plant: Planting Plan with Cross Section Locations, Proposed Planting Schedule, Site Photos, Section G and Section E, Rev 2, prepared by Boffa Miskell, 14 March 2021.

(i) Consideration of Potential Landscape Effects Arising from the Huia WTP Site Vegetation Clearance and Temporary Cleared Site. Boffa Miskell, 26 August 2020.

(j) Memorandum titled '*NPS-FW wetland evaluation for weedfield in Huia WTP site*' prepared by Boffa Miskell, dated 15 April 2021.

3. No works provided for under these consents shall occur outside of the footprint of the replacement WTP, Reservoir 1 and Reservoir 2 identified on Hearing Plan A: Project Site Features dated 20 Feb. 2020 other than to achieve safe sight distances for site access and minor variations described in the Optimised Site Layout Report required by Conditions 10 to 12, and subject to complying with Condition 4.

4. The maximum area of vegetation removal within the Significant Ecological Area provided for under these consents is set out as follows:

- Replacement WTP: 2.50 ha
- Reservoir 1: 0.60 ha
- Reservoir 2: 0.40 ha

Advice notes: Conditions 3 and 4 are also subject to Conditions 10 to 12 below which require that the footprint of the replacement WTP and reservoirs is optimised through detailed design as far as practicable.

If the optimised site layout report required by Conditions 10 to 12 below confirms a ***reduced*** *area of vegetation removal within the SEA, then this shall prevail over the maximum area identified in Condition 4 above.*

5. In the event of any conflict between the documents listed in Condition 2 above and the conditions of this consent, the conditions shall prevail.

Advice note:
In the event that minor amendments to the approved plans and management are required, any such amendments should be limited to the scope of this consent. Any amendments which affect the performance of the proposed activity may require an application to be made in accordance with s127 of the RMA. Any minor amendments shall be provided to the Council prior to implementation to confirm that they are within the scope of this consent.

Section 128 review

5A The conditions of this consent may be reviewed by the Council pursuant to s128 of the RMA (with the costs of the review process being borne by the Consent Holder) by giving notice pursuant to s129 of the RMA, at one or more of the following times:

- At two yearly intervals from the date of granting of consent prior to the commencement of earthworks provided for under this consent; and
- Within one year of initiation of the earthworks provided for under this consent; and
- At two yearly intervals after that time.

In addition to the above, the conditions which relate to the diversion of groundwater set out in Section O of this consent may be reviewed at intervals of not less than one year following commencement of dewatering.
The purpose of the review may be for any of the following purposes, namely:

(i) To deal with any adverse effect on the environment which may arise from the exercise of this consent or upon which the exercise of the consent may have an influence and which becomes apparent, or is found appropriate, to deal with at a later stage, and in particular but without limiting the ambit of this clause to:

   a. Insert conditions, or modify existing conditions, to require the consent holder to identify the character or nature of any discharges authorised by this consent and to report the results of that monitoring to the Council; and/or
   b. Insert conditions, or modify existing conditions to require the consent holder to monitor the effects of any activities authorised by this consent on the local receiving environment and to report the results of that monitoring to the Council;
   c. Insert conditions, or modify existing conditions, requiring the consent holder to adopt the Best Practicable Option to remedy, mitigate or minimise any adverse effects on the environment which may arise from the exercise of these consents and which it is appropriate to deal with at a later stage.

(ii) To review and respond to refinements identified through the Optimised Site Layout Report required by Condition 11.

(iii) To review the conditions set out in '*Section C – Ecological Management Plan'* in light of monitoring and new methodologies to avoid, remedy or mitigate potential adverse effects on ecological values and biodiversity, including in particular the vegetation and fauna management protocols to minimise potential effects on flora and fauna.

(iv) To review the management measures and hygiene protocols to avoid and minimise the risk of spreading kauri dieback disease (*P. agathidicida*) set out in '*Section D – Earthworks and Vegetation removal'* to take into account the most up-to-date research and information, including reviewing the monitoring and reporting requirements and the potential to treat captured surface water run off to eliminate *P. agathidicida* prior to discharge.

(v) To review the conditions of consent in relation to *Streamworks (Section E)* and *Groundwater diversion (Section O)* to respond to any updates to the National

Policy Statement for Freshwater Management 2020 (NPS-FW) or to changes to the Auckland Unitary Plan (AUP) to give effect to the NPS-FW.

(vi) To review the objectives and requirements of the Waima Biodiversity Management Plan (WBMP) taking into account the results of monitoring required by Condition 89 and the additional controls and Further Biodiversity Works Plan required by Conditions 90 and 91 respectively.

(vii) In relation to the diversion of groundwater, to vary the monitoring and reporting requirements, and performance standards, in order to take account of information, including the results of previous monitoring and changed environmental knowledge on:

- ground conditions;
- aquifer parameters;
- groundwater levels; and
- ground surface movement.

Monitoring

6. The consent holder shall pay the Council an initial consent compliance monitoring charge of $5,000 inclusive of GST, plus any further monitoring charge or charges to recover the actual and reasonable costs incurred to ensure compliance with the conditions attached to this consent/s.

Advice note:
The initial monitoring deposit is to cover the cost of inspecting the site, carrying out tests, reviewing conditions, updating files, etc., all being work to ensure compliance with the resource consent. In order to recover actual and reasonable costs, monitoring of conditions, in excess of those covered by the deposit, shall be charged at the relevant hourly rate applicable at the time. The consent holder will be advised of the further monitoring charge. Only after all conditions of the resource consent have been met, will the Council issue a letter confirming compliance on request of the consent holder.

Archaeology

7. In the event of archaeological site evidence (e.g. shells, middens, hangi or ovens, pit depressions, defensive ditches, artefactual material or human bones) being uncovered during construction/earthworks, the Consent Holder shall ensure that operations shall cease in the vicinity of the discovery and that the Council and Te Kawerau ā Maki are contacted so that the appropriate action can be taken before any work may recommence there.

Should earthworks on the site result in the identification of any previously unknown archaeological site, the land disturbance – Regional Accidental Discovery rule [E11.6.1] set out in the AUP(OP) shall also be applied.

Advice note:
In the event of an Accidental Discovery, also refer to the Mana Whenua-directed procedures to be implemented in the event of an accidental discovery set out in the CMEP required under Condition 95.

B. Pre-commencement

Site Meeting

8. Prior to the commencement of any construction activities or vegetation removal, the Consent Holder shall hold a pre-start meeting that:

   (a) is located on the subject site;
   (b) is scheduled not less than 10 working days before the anticipated commencement of construction works;
   (c) includes Auckland Council officer(s); and
   (d) includes representation from the contractors who will undertake and or supervise the works.

   A representative from Te Kawerau a Maki shall also be provided the opportunity to attend the pre-start meeting.
   The pre-start meeting is to ensure all relevant parties are aware of and familiar with the necessary conditions of these consents. At this pre-start meeting, the meeting shall discuss the following matters (not limited to):
   (i) Timeframes for key stages of the works authorised under these consents;
   (ii) Detailed run-through of the key aspects of the approved management plans, including specific details on the controls to minimise the spread of kauri dieback, the need to minimise vegetation removal and restrictions around transportation movements to and from the site; and
   (iii) Contact details of the site contractor(s).

   Advice note:
   To arrange the pre-start meeting please contact the Council on 09 301-0101. The conditions of consent are to be discussed at this meeting. All additional information required by the Council is to be provided two working days prior to the meeting.

Detailed engineering drawings and design

9. Following detailed design of the Project enabling works for each stage (or stages), and at least twenty (20) working days prior to commencement of these works (excluding site investigations, demolition and removal of buildings and structures, and establishment of site entrances and fencing), the Consent Holder shall submit detailed engineering designs and drawings of earthworks for that stage (or stages) to the Council.

10. The Consent Holder shall ensure that the footprint of the replacement WTP and reservoirs is optimised through detailed design to ensure that, as far as practicable, the works provided for under this consent:

    (a) Further reduce the extent of vegetation removal in the Significant Ecological Area (SEA); and
    (b) Further reduce effects on individual trees of greatest significance that are located within the works footprint identified in the drawings referenced in Condition 2; and

(c) Further reduce effects on kauri trees that have rootzones within or extending into the works footprint identified in the drawings referenced in Condition 2 and as confirmed onsite by a suitably qualified arborist in accordance with Condition 37.

11. Prior to commencement of works, the Consent Holder shall submit an updated Optimised Site Layout Report (OSLR) and associated plan(s) for written approval by the Council confirming the works footprint and setting out the measures to further minimise impacts on vegetation in the SEA and significant trees as required by Condition 10.

12. The OSLR required by Condition 11 shall:

(a) Report on optimisation of the footprint that has occurred through detailed design taking into account the matters in Condition 10 (a) to (c) above;
(b) Confirm the area of vegetation clearance (less than or up to the limits set out in Condition 4); and
(c) Include an assessment (including recommendation and supporting rationale) of:
(i) Removing the historic Huia Water Treatment Plant buildings to provide an alternative layout for Reservoir 2 and reduced vegetation clearance; and
(ii) Restrictions on uses of the site, including car parking and administrative functions, to those which are essential to the safe and efficient operation of the treatment plant; and
(iii) The option of moving the replacement WTP closer to the Woodlands Park Road frontage taking into account relevant considerations including landscape, ecological, arboricultural, and traffic and access effects. If this option is selected, a minimum landscape buffer of 5 m from the property boundary to Woodlands Park Road must be maintained and shall be accompanied by a reduction in footprint along the southern boundary that is at least commensurate in area.

An independent peer review of the conclusions and recommendations of the OSLR shall be undertaken and submitted to Council with the OSLR.

Community Liaison Group

13. The Consent Holder shall support the establishment and ongoing involvement of a Community Liaison Group (CLG) comprised of representatives of the local community and local businesses. The objectives of the CLG are to:

(a) Provide a means for all parties to give and receive regular updates on progress with the Project;
(b) Provide a regular forum through which information about the Project can be provided to the community;
(c) Enable opportunities for concerns and issues to be reported to and responded to by the Consent Holder; and
(d) Provide feedback on the development of the Ecological Management Plan (EMP), Waima Biodiversity Management Plan (WBMP), Construction Noise

and Vibration Management Plan (CNVMP), Construction Traffic Management Plan (CTMP) and Kauri Dieback Management Plan (KDMP).

14. The Consent Holder shall:

    (a) Consult with the CLG on the development and content of the EMP, WBMP, CNVMP, CTMP and KDMP;
    (b) Provide reasonable administrative support for the CLG including:
        - Organising meetings at a local venue;
        - Inviting all members of the CLG;
        - Distributing an agenda to each CLG member no less than five working days prior to meetings; and
        - The taking and dissemination of meeting minutes,
    (c) Provide an update at least every six months (or as otherwise agreed with the CLG) on compliance with consent conditions.

15. The Consent Holder shall endeavour to ensure that the CLG meets at least every three (3) months and more often as required during construction of the Project, and at least annually at other times, or as otherwise agreed with the CLG. The CLG shall continue for the duration of the construction period.

16. Prior to the commencement of works a Construction Communication Plan (CCP) shall be submitted to the Council for certification in accordance with Condition 17.

    The objective of the CCP is to set out a framework to ensure appropriate communication is undertaken with relevant stakeholders, including neighbours and local businesses during the construction of the Project. The CCP shall set out how the Consent Holder will:

    1) Inform the community of construction progress and future construction activities and constraints that could affect them;

    2) Receive and respond to feedback on construction related matters; and

    3) Provide information on key project milestones.

    The CCP shall, as a minimum, include:

    a) A communications framework that details the consent holder's communication strategies, the accountabilities and timeframes for responding to inquiries and complaints, frequency of communications, the range of communication methods to be used (including any modern and relevant communication methods, newsletters or similar, advertising), and any other relevant communication matters;

    b) The Communication Liaison Manager for the Project including their contact details (phone, email and postal address);

    c) How the community, stakeholders, local business, and affected in proximity parties will be notified of the commencement of construction activities and

works, the expected duration of the activities and works, and who to contact for any queries, concerns and complaints; and

d) Methods for communicating in advance of proposed construction activities where there is the potential for noise/vibration effects (required by Condition 107), to surrounding relevant stakeholders and methods to record and deal with any concerns raised about such activities.

The CCP shall have regard to, and where appropriate implement, any relevant actions arising from the Community Liaison Group meetings (required by Conditions 13 and 14).
The CCP shall be implemented and complied with for the duration of the construction of the Project.

Management Plans – General

17. The following are general provisions related to all management (or control) plans:

(a) Management Plans shall be submitted to the Council for certification or written approval (as determined by the relevant condition) as follows:

i. At least forty (40) working days prior to the intended start of the works, the Consent Holder shall provide Council with a schedule detailing the timing of all relevant Management Plans that will be provided to Council for certification or written approval. The schedule should be updated and provided to Council prior to any new stage.

ii. Management Plans shall be submitted at least twenty (20) working days prior to the Commencement of Construction unless otherwise specified in the conditions. The consent holder shall ensure that any changes to draft Management Plans are clearly identified.

(b) Management Plans may be submitted in parts or in stages to address particular activities or to reflect a staged implementation of the Project, and when provided in part or for a stage shall be submitted at least twenty (20) working days prior to Commencement of Construction of that part of stage unless otherwise specified in the conditions. Management Plans submitted shall clearly show the linkage with plans for adjacent stages and interrelated activities.

(c) Any approved or certified Management Plan may be amended if necessary to reflect any minor changes in design, construction methods or management of effects. Any amendments are to be provided to the Council for confirmation in writing prior to implementation of the change, unless the Council determines at its discretion that those amendments once implemented would result in a materially different outcome to that described in the original Management Plan.

(d) Any changes to an approved or certified Management Plan involving a materially different outcome shall be submitted to the Council to certify that

they comply with the applicable requirements of these conditions. Any material change must be consistent with the purpose of the relevant Management Plan and the requirements of the relevant conditions of these consents. Where a Management Plan was prepared in consultation with interested or affected parties, any material changes to that Plan shall be prepared in consultation with those same parties.

(e) All works shall be carried out in accordance with the approved Management Plans. No works shall commence until written approval or certification of all the relevant Management Plans for that stage have been received, unless otherwise approved in writing by the Council.

C. Ecological Management Plan

18. The Consent Holder shall prepare a final Ecological Management Plan (EMP) for the Project Site. The objective of the EMP is to identify how the Project will avoid, remedy and mitigate potential adverse effects on the ecological values and biodiversity of the land within the Project Site, as well as a methodology for pre- and post-works monitoring.

19. The EMP shall be prepared in accordance with the Draft EMP and shall address how the Project will avoid, remedy and mitigate actual and potential adverse effects on ecological values including:

    1) individual large trees close to the works footprint;
    2) herpetofauna (lizards and frogs);
    3) kauri snails;
    4) bats;
    5) avifauna (birds); and
    6) vegetation / habitat.

    Advice Note:
    For avoidance of doubt, the EMP sets out the vegetation and fauna management protocols to be undertaken at all stages of the works to minimise potential effects on flora and fauna. This includes protocols to be undertaken prior to, and during, the initial site preparation works including geotechnical investigations, vegetation clearance, and topsoil disturbance, clearance and disposal phases, along with the subsequent bulk earthworks phase.

20. The protocols to manage the risk of introducing or spreading kauri dieback within or off the Project Site are set out in the Kauri Dieback Management Plan (KDMP) required under Condition 24. The EMP shall be implemented in accordance with the relevant KDMP protocols and in accordance with Conditions 30 to 37 '*Management of kauri dieback – During works*'.

21. The EMP shall provide detail on site-specific ecological management and mitigation measures that will be implemented on the Project Site which shall include:

    (a) Vegetation protection and clearance protocols, including surveying and demarcation of the works area and other protocols for minimising accidental encroachment and damage to individual trees and vegetation outside of the works footprint for the duration of earthworks and construction activities. These shall include, but not be limited to:

        - A tree protection methodology for works within the Tree Protection Zone (TPZ) (note: Kauri Containment Zones (KCZ) identified in accordance with Condition 37 represent the TPZ for works within the vicinity of kauri trees). This shall include:

            (i) Arborist supervision to monitor, supervise and direct all works within the TPZ of identified trees near the perimeter of the construction footprint;

(ii) Tree protection measures and protection plans, including fencing, for trees where works are to occur within the TPZ.

- A tree risk register;
- Root pruning and remediation methodology;
- Protocols for concrete deliveries and pours within the vicinity of trees and within the TPZ;
- On-going monitoring of tree protection measures by a suitably qualified arborist for the duration of construction works.

In addition to the above:

- Any tree pruning or removal required to facilitate the works must be undertaken by an Auckland Council approved arborist.
- Within the seepage range of any TPZ there shall be no refueling of equipment or machinery and no storage of fuel or any other substance detrimental to tree health.

(b) Management measures and protocols to avoid, remedy or mitigate the impact of activities (vegetation clearance, earthworks and construction) on flora and fauna within the Project Site, including:

(i) Fauna Management Protocols (FMP) prepared by a suitably qualified ecologist holding the appropriate Wildlife Act Authority (incl. in the case of herpetofauna, a Department of Conservation (DoC) approved herpetologist) to handle fauna. The FMP shall specify kauri snail, lizard and Hochstetter's frog surveys, capture, salvage and relocation programmes. The FMP are to be implemented within the delineated earthworks footprint agreed by the ecologist and the DoC approved herpetologist immediately prior to and during any vegetation clearance.

The FMP shall include (in order of preference):

- Visual inspection and destructive searching of potential habitat features (including trees and ground cover habitats). Inspection methods are to include search techniques suitable for lizards and kauri snails.
- Supervised felling where high-quality lizard habitat cannot be adequately searched (e.g. tall, dense tree species), felling should be supervised to allow a herpetologist to search through fallen trees for resident lizards.
- Passive dispersal – placing the felled vegetation outside of the works footprint to allow lizards to disperse. This method is not preferred as a standalone lizard management tool but may be suitable in some instances such as lower-quality potential habitat or following hand-searching if trees must be felled out of season.

The FMP shall also set out the procedures to be followed in the event Hochstetter's frogs are encountered. These procedures are to be developed in consultation with the DoC's Frog Recovery Group.

Subject to obtaining the necessary landowner approvals, Clarks Bush (south-east of the Project Site) is the preferred location to release relocated fauna. Intensive pest control and habitat enhancement is required in and around release sites prior to relocation of any target fauna. These measures are to enhance relocation success for native fauna.

(ii) Native bat management procedures prepared by a suitably qualified and experienced field ecologist holding a permit from DoC certifying the holder as competent for bat research and management skills. The bat management procedures shall detail:

- Pre-vegetation removal bat survey methodology including a native bat survey monitoring programme;
- Procedures if no bat activity is recorded;
- Procedures to be followed if bat activity is recorded;
- Procedures in the event of finding dead or injured bats.

Where applicable, the native bat management procedures shall be in general accordance with the most recent DoC guidelines "*Tree removal protocols for areas where bats are present*".

(iii) A detailed schedule of seasonal constraints and optimal work intervals shall be included in the final EMP to ensure that vegetation clearance is carried out with consideration for bird, lizard, bat, frog and kauri snail seasonal constraints.

Advice note:
For the avoidance of doubt, vegetation clearance within the works footprint does not have to be completed in a single season. Vegetation clearance can be staged to be spread across different seasons recognising various seasonal ecological constraints.

(c) Vegetation clearance within the works footprints shall, as far as practicable, take place outside the native bird breeding season (August-February inclusive). If vegetation clearance is undertaken during the main breeding season, a bird and nest survey shall be undertaken by an appropriately qualified and experienced field ornithologist ("Project Ornithologist"). The Project Ornithologist shall undertake all avifauna work including the sighting and deployment of acoustic recorders, analysis of sound files and nest surveys. The bird and nest survey protocol is as follows:

- Any vegetation scheduled for removal shall be surveyed for any native bird nests within 24 hours prior to clearance.
- If an active native bird nest is identified during the visual inspection, all vegetation removal within 20m of the nest shall cease until the Project Ornithologist has confirmed that the nest has failed, or the chicks have fledged. This area shall be clearly demarcated to ensure the vegetation is not accidentally felled.

- Once an area of vegetation has been confirmed clear of active native bird nests, vegetation clearance shall be initiated as soon as possible to prevent birds establishing further nests.

(d) A Revegetation Plan using plant material eco-sourced from the Waitakere Ecological District with a 10-year maintenance period shall be prepared for all parts of the Project Site that are outside the Project development area. This shall include riparian planting and mitigation and restoration planting such as:

a) Exposed bush edges, old tracks and open areas shall be revegetated with fast growing forest edge species to buffer the forest interior, inhibit weed encroachment and accelerate regeneration. These new edges shall be planted with low-growing, lizard-friendly species such as pohuehue and shrubby *Coprosma* species to enhance these areas as habitat for lizards; and

b) Riparian buffer zones adjacent to watercourses within the Project Site shall be planted with species to buffer and enhance the watercourse and adjacent forest areas with a minimum width of 10m for the true right bank of the Armstrong-Manuka Stream.

22. The EMP shall be prepared in consultation with DoC, the Royal Forest and Bird Protection Society of New Zealand ('Forest and Bird'), Te Kawerau ā Maki and the CLG. The EMP shall be provided to DoC for its review, prior to the EMP being finalised. If comments are provided by DoC within 20 working days, the Suitably Qualified and Experienced Person who prepared the EMP shall amend the EMP where appropriate, noting why DoC's recommendations were or were not adopted. The amended EMP shall be provided to the Council in accordance with Condition 17.

23. The Consent Holder shall submit the final EMP to the Council at least twenty (20) working days prior to the commencement of works (excluding site investigations, demolition and removal of buildings and structures, and establishment of site entrances and fencing) for written approval that the EMP complies with the requirements of Conditions 18 to 21, as applicable. The EMP shall be prepared by a suitably qualified person with reference to relevant specialists as required. No works shall commence until the EMP, or the EMP for that stage of works, has been approved by Council.

D. Earthworks and Vegetation removal

Part I: Site preparation earthworks and vegetation removal

Advice Note: The conditions in Section D: Part I below apply to the initial site preparation works only, including geotechnical investigations, vegetation clearance and the removal and disposal of organic material (including topsoil). For the avoidance of doubt, they do not apply to the bulk earthworks phase of works once the site preparation earthworks and vegetation removal is complete. Bulk earthworks conditions are set out in Section D: Part II.

Kauri Dieback Management Plan

24. At least twenty (20) working days prior to any works commencing at the Project Site, the Consent Holder shall submit a Kauri Dieback Management Plan (KDMP) to the Council for written approval in accordance with Condition 17. The KDMP shall be prepared by suitably qualified experts in erosion and sediment control, biosecurity, kauri dieback, plant pathology or similar and shall be prepared in accordance with the Draft KDMP. The KDMP shall be prepared in consultation with DoC, the Royal Forest and Bird Society of New Zealand, the Auckland Conservation Board and Te Kawerau ā Maki.

25. The overall intent of the KDMP is to ensure that the works do not further the movement of kauri dieback disease (*P. agathidicida*) by creating or intensifying routes of dispersal into or from the Project Site beyond that which currently occurs through passive runoff. The purpose of the KDMP shall be to set out the protocols and monitoring to be used to avoid and minimise the risks of spreading kauri dieback disease. The KDMP will as a minimum stipulate:

    (a) The kauri dieback hygiene protocols to be followed by all staff and visitors for the site preparation works. Site wide hygiene protocols are to include, but are not limited to;

        - Washdown facilities (vehicles, machinery and personnel) at all entry and exit points on the Project Site with separate boot and equipment wash facilities at all KCZ entry points;
        - Washwater collected and contained onsite until it can be sterilised or disposed of offsite; and
        - Clear delineation of earthworks / native vegetation boundary.

    (b) The general content of briefings on kauri dieback management that will be delivered to all plant operators, site staff and visitors that will access the site during the course of the works.

    (c) Measures that will be put in place during site establishment (including establishing erosion and sediment control devices) to prevent the spread of *P. agathidicida*.

    (d) How run-off from washdown facilities will be managed to avoid:

        i. Re-contaminating equipment, vehicles etc as they leave the facility;

ii. Creating wet or muddy conditions in the site that pose a risk of contaminating other equipment;
iii. Run-off leaving the washdown facility without containment; and
iv. Creating any further biosecurity risks.

(e) How works will be planned and sequenced such that plant, vehicles and materials will be able to remain on site for the duration of the works for which they are required.

(f) How works will be staged to restrict vegetation clearance across the site at any one time. Note: In accordance with the draft KDMP, the maximum staged area is 1,500m² unless a different area is set out in the approved KDMP.

(g) How works will be staged to limit areas of soil disturbance during the topsoil removal phase. Note: In accordance with the draft KDMP, the maximum staged area is 3,000m² unless a different area is set out in the approved KDMP.

(h) How the introduction of *P. agathidicida* to the site will be avoided in regard to sourcing of brought-in materials, vehicles, equipment, plant stock or other risk goods.

(i) Controls to reduce soil and sediment loss and mitigate surface water run-off. Unless otherwise set out in the approved KDMP, as far as practicable a two-stage process shall apply to all catchments with a primary device sized based on a 3% catchment area storage volume and a secondary device to capture all surface flows in storms up to, as a minimum, the 1 in 10 year storm event from the specific catchment.

Advice Note:
The intention of this condition is for the primary device to consider the "at source" capture and settlement of sediment, while secondary treatment shall be sized for all flow from the maximum sized open catchment in a 1 in 10-year storm event. The secondary device shall afford an opportunity for "treatment" of captured surface water run off prior to discharge to the downstream environment (refer Condition 29 below).

(j) Measures to collect and dispose of sediment from sediment and erosion control devices post completion of the topsoil removal phase (and prior to the bulk earthworks phase commencing) to an approved facility.

(k) How erosion and sediment control devices designed to capture surface run off from exposed areas have been designed to ensure sediment treatment of captured water prior to discharge.

(l) How drainage, run-off, or other water discharges from the site will be directed away from kauri and their rootzones.

(m) Procedures that will be put in place to monitor sediment tracking or deposition outside of the Project Site and how this will be responded to in a timely manner.

(n) Procedures to determine if material is suitable for reuse onsite in lieu of off-site disposal. Where material is not to be reused onsite, how material removed from the Project Site will be contained, transported and disposed of in a manner that poses minimal risk of spreading *P.* agathidicida.

(o) Additional requirements in relation to Kauri Contamination Zones (KCZ), identified in accordance with Condition 37, within the Project Site including:

i. How the KCZ will be protected from access, identified and signposted to clearly communicate the delineation and protocols required in relation to the KCZ;
ii. How works within KCZ 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 KCZ.
iii. Identification of the suitably qualified person who will supervise works within KCZ.
iv. The design and construction methodology that will be employed in establishing and maintaining accessways that intersect KCZ such that vehicles, plant and machinery will have separation from bare soil or kauri roots adequate to avoid damaging or compacting kauri roots and avoid tracking of material into, within or out of the KCZ.
v. Methods used to remove all soil from, and decontaminate vehicles, equipment, personnel, footwear etc when entering and exiting the KCZ, and how run-off from this activity will be contained and disposed of in a manner that poses minimal risk of spreading P. agathidicida.

(p) That the applicant will follow the protocols and procedures included in the KDMP at all times, except under the express circumstances (if any) where an exemption to any of the above might apply.

26. The KDMP shall specify a soil sampling regime in relation to *P. agathidicida* which shall be undertaken at the same time as the geotechnical investigation phase of works. The soil sampling should be undertaken in areas where the previous Kauri Dieback testing has shown a positive result, in low lying areas (e.g. surface water flow paths) and within the tree root zone of kauri and large trees in the Project Site, or as otherwise determined by Condition 27 below.

27. The *P. agathidicida* sampling regime and methodology for collection of samples must be developed by an appropriately qualified plant pathologist, with advice from a geotechnical engineer and qualified arborist, and as a minimum shall include testing for *P. agathidicida* at:

(a) the surface;
(b) the maximum depth of the organic soil layer;
(c) a minimum depth of 50cm further below the maximum depth of the organic soil layer;
(d) at further depths as required to indicate the depth at which kauri dieback occurs across the site.

28. The *P. agathidicida* testing results shall inform the appropriate depth of excavation to ensure all soil to the depth determined in accordance with Condition 27, including organic material and surface subsoil (immediately below topsoil), is disposed of to an appropriate facility to receive *P. agathidicida* (in accordance with Condition 59C). The depth shall be agreed by an appropriately qualified plant pathologist, arborist and geotechnical engineer.

28A The KDMP shall specify a *P. agathidicida* sampling regime, developed by an appropriately qualified pathologist, the contractor and an Erosion and Sediment Control (ESC) specialist to audit all specified hygiene and containment measures to ensure their effectiveness. The methodology for collection of samples, including location and frequency, shall be determined based on the advice of the qualified plant pathologist, contractor and ESC specialist.

29. The KDMP should be reviewed and updated to reflect the best practice for the prevention and treatment of kauri dieback, to ensure that when works commence, the most up-to-date and appropriate controls are in place to manage the spread of kauri dieback disease. This shall include potential methodologies to treat captured water to eliminate P. *agathidicida* prior to discharge.

Management of kauri dieback – During works

30. There shall be no deposition of earth, mud, dirt, sludge or slurry or other debris that might contain *P.agathidicida* on any road or footpath resulting from earthworks or transport activity on or from the subject site or associated sites such as landfill disposal facilities utilised in the course of the works. In the event that such deposition does occur, it shall immediately be removed.

31. Under no circumstances is any soil from the site preparation earthworks to be deposited within the site but outside the delineated sub catchment earthworks areas.

32. Sediment control devices, drains, and perimeter controls treating or controlling run-off shall direct run-off away from kauri and their KCZ. Vehicle washdown facilities shall not be located within or allow run-off or splash to enter any KCZ.

33. Where material is suitable for reuse onsite this shall be prioritised in lieu of off-site disposal.

34. Fill, soil, aggregate, organic material (or other substances or goods that may harbour *P. agathidicida*) brought into the Project Site shall be sourced from areas free, as established by inspection and diagnostic testing (where relevant), of kauri dieback disease and without kauri in the source site.

35. Planting stock species lists used for planting associated with the project shall not include Agathis species, or species identified as hosts or carriers of *P. agathidicida* according to current scientific knowledge at the time of planting.

36. Any sludge and sediment removed from sediment control devices shall be disposed of at an approved landfill facility.

37. A KCZ shall be established around all kauri on the Project Site, with the area being defined by three times the canopy dripline radius of the tree in question or as otherwise specifically determined onsite for each kauri by a suitably qualified arborist. This shall include kauri with trunks outside of the Project Site but with rootzones extending into the Project Site. The additional KCZ requirements under Condition 25(o) shall be in place for the duration of the works.

Part II: Bulk earthworks

Advice Note: The conditions set out in Section D: Part II below, including the ESCP required by Condition 39, apply to the bulk earthworks phase of the works only. The bulk earthworks conditions apply once all topsoil and subsoil has been removed from site in accordance with the conditions set out above.

Bulk earthworks excavation

38. The depth at which excavations are to be deemed bulk earthworks shall be confirmed in accordance with Conditions 26 to 27(d) above.

Erosion and Sediment Control Plan

39. Prior to the commencement of bulk earthworks activity for each stage, finalised Erosion and Sediment Control Plans (ESCP) shall be prepared in accordance with Auckland Council's Guidance Document 005 'Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region' (GD05) and the preliminary erosion and sediment control plans provided in the application. The ESCP shall include the following information:

    (a) Timing and duration of construction and operation of control works;

    (b) Specific erosion and sediment control works (location, dimensions, capacity) in accordance with GD05, including staging details and stage-specific erosion and sediment controls. Erosion and sediment controls are to include:

        i. stablished entrance ways;

        ii. sediment retention ponds;

        iii. silt fences and super silt fences;

        iv. decanting earth bunds; and

        v. clean and dirty water diversion bunds.

    (c) Details relating to the management of exposed areas (e.g. grassing, mulching);

    (d) Kauri dieback hygiene protocols to be established at each construction site entrance and exit;

    (e) Specify measures to collect and dispose of sediment from sediment and erosion control devices to an approved facility;

    (f) Establishment of washdown facilities at vehicle entry and exit points on the Replacement Huia WTP and Reservoir 1 sites; and

    (g) Measures to ensure surface run off from bulk earthwork catchments is discharged without cross contamination of run off from the topsoil clearance and disposal catchment(s);

(h) Supporting calculations and design drawings;

(i) Details of construction methods;

(j) Catchment boundaries and contour information; and

(k) Cut and fill isopach plan.

40. All perimeter controls shall be operational before bulk earthworks commence. All 'cleanwater' runoff from stabilised surfaces including catchment areas above the Project Site shall be diverted away from earthworks areas via a stabilised system, so as to prevent surface erosion.

41. The ESCP shall be submitted to the Council on monitoring@aucklandcouncil.govt.nz for approval in accordance with Condition 17. No earthworks activity on the subject site shall commence until the ESCP has been approved.

Dewatering Plan

42. Prior to the commencement of bulk earthworks activity on the subject site a Dewatering Plan shall be prepared for dewatering any surface water and/or groundwater that becomes impounded in the excavation pits.

The objectives of the Dewatering Plan are:

i. to set out the measures to ensure excavations are not inundated by surface and/or groundwater; and
ii. to ensure all dewatering discharges are treated and disposed of appropriately.

The Dewatering Plan shall include, but not be limited to:

(a) Dewatering methodology;

(b) Pump size and specifications;

(c) Discharge locations; and

(d) Impounded water treatment methodologies in accordance with the approved Chemical Treatment Management Plan (required under Condition 59).

The Dewatering Plan shall be submitted to the Council for written approval in accordance with Condition 17. No bulk earthworks activity on the subject site shall commence until the plan has been certified.

Part III: General earthworks conditions

Advice Note: The conditions set out in Section D: Part III below apply to all earthworks activities on the Project Site.

Erosion and Sediment Management

43. All sediment retention ponds and decanting earth bunds shall be chemically treated in accordance with the approved Chemical Treatment Management Plan (ChTMP).

44. Prior to each stage of earthworks commencing, including any streamworks, an as-built certificate signed by a suitably qualified and experienced person shall be submitted to the Council, to certify that the erosion and sediment controls specific to that stage have been constructed in accordance with the approved erosion and sediment control plans and GD05.

45. Certified controls shall include the stabilised entrance ways, sediment retention ponds, super silt fences, silt fences, decanting earth bunds and clean and dirty water diversion bunds. The certification for these measures shall be supplied immediately upon completion of their construction. Information supplied, if applicable, shall include:

    (a) Contributing catchment area;

    (b) Shape and volume of structure (dimensions of structure);

    (c) Position of inlets/outlets; and

    (d) Stabilisation of the structure.

46. Erosion and sediment control measures shall be constructed and maintained in accordance with GD05, and any amendments to this document, except where a higher standard is detailed in the documents referred to in conditions above, in which case the higher standard shall apply.

47. There shall be no 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:

    - *provision of a stabilised entry and exit(s) point for vehicles*
    - *provision of wheel wash facilities*
    - *ceasing of vehicle movement until materials are removed*
    - *cleaning of road surfaces using street-sweepers*
    - *silt and sediment traps*

- *catchpit protection*

In no circumstances should the washing of deposited materials into drains be advised or otherwise condoned.
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 GD05 .

48. Upon completion or abandonment of earthworks 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:

- *the use of mulching;*
- *top-soiling, grassing and mulching of otherwise bare areas of earth;*
- *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 GD05.

49. The operational effectiveness and efficiency of all erosion and sediment controls and associated measures specifically required as a condition of resource consent or by the earthworks methodology shall be maintained throughout the duration of earthworks, or until the site is permanently stabilised against erosion.

50. The sediment and erosion controls shall be inspected on a regular basis and within 24 hours of each rainstorm event that is likely to impair the function or performance of the erosion and sediment controls. A record shall be maintained of the date, time and any maintenance undertaken in association with this condition which shall be forward to the Council on request.

Seasonal Restrictions

51. No earthworks or streamworks on the site shall be undertaken between 1 May and 30 September in any year, without the prior written approval of the Council. Revegetation/stabilisation is to be completed by 30 April in accordance with measures detailed in GD05 and any amendments to this document.

Advice Note:
Any 'Request for winter works' submitted in accordance with Condition 51 will be assessed against criteria in line with the information required to assess a comprehensive application. Principally that will focus on the level of risk, the

propensity to manage that risk with contingency planning and a 'track record' of good compliance with consent conditions. Each 'Request for winter works' submitted, should include the following:

- *Description of works proposed to be undertaken between 1 May and 30 September and the duration of those works;*
- *Details of proposed measures to prevent sediment discharge from these specific works, particularly during periods of heavy rainfall;*
- *Details of area(s) already stabilised;*
- *Revised erosion and sediment control plan detailing stabilisation to date and time-line/staging boundaries showing proposed progression of stabilisation;*
- *Contact details for contractor who will undertake stabilisation of the site including date(s) expected on site;*
- *Alternatives/contingencies proposed if the contractor referred to above becomes unavailable;*
- *Details of site responsibilities, specifically who is responsible for erosion and sediment controls and stabilisation processes over the specified period.*

Baseline Monitoring and Adaptive Management

52. Prior to commencement of earthworks activity on the site an Adaptive Management Plan (AMP) shall be submitted to the Council for written approval in accordance with Condition 17. The AMP shall be prepared in consultation with Te Kawerau ā Maki.

    The objective of the AMP is to set out a monitoring and reporting programme for the erosion and sediment control devices and downstream receiving environment, and to set specific trigger levels for management actions if specified limits are exceeded.

    The AMP shall include, but is not limited to:

    (a) Baseline testing;

    (b) Trigger levels;

    (c) Weather monitoring (rainfall, forecasting);

    (d) Freshwater monitoring (water quality, MCI, sediment deposition);

    (e) Erosion and Sediment control device monitoring (including outlet turbidity) and maintenance requirements;

    (f) Reporting requirements (exceedance, quarterly, annual); and

    (g) Management actions.

53. The requirements of the AMP under Condition 52 and any subsequent revisions shall be implemented throughout the duration of the earthworks activity on the sites.

54. A Freshwater Baseline Report (FBR) containing the pre-construction in-stream monitoring required under Condition 52 shall be provided to the Council for written approval prior to any earthworks or streamworks commencing. The FBR shall be prepared in consultation with Te Kawerau ā Maki. The minimum requirements of this report shall be:

    (a) Freshwater Monitoring sites shall be located both upstream and downstream of each earthworks site on both the Yorke stream and Armstrong stream. The locations of these monitoring sites will allow water quality to be tested as freshwater flows into the site and downstream of the site.

    (b) The pre-construction environmental conditions shall be represented by:

        (i) Water quality (turbidity, pH);
        (ii) Sediment deposition over a transect; and
        (iii) MCI sampling.

55. Pre-rain forecast inspections as defined within the AMP must be undertaken at a minimum of 24 hours prior to the forecasted event. If the forecast is not made available within 24 hours of the proposed event, all reasonable attempts shall be made to inspect the site prior to the proposed event.

56. An earthworks catchment which has been stabilised as a result of a trigger level exceedance as defined and required by the AMP may only be re-opened on the written approval of the Council.

57. Any proposed revisions to the AMP must be submitted to the Council for written approval prior to formalising and implementing the revised AMP.

58. If in the Council's opinion, there are changes required to be made to the AMP as a result of observing inefficiencies on site or identified within the site reporting, the Council may request that the AMP be updated to address these inefficiencies. If a request is made, the revised plan shall be submitted to the Council within five working days of the request for certification prior to implementation.

Chemical Treatment Management Plan

59. Prior to the commencement of earthworks at the site, a Chemical Treatment Management Plan (ChTMP) shall be submitted to the Council for written approval in accordance with Condition 17. The objective of the ChTMP is to set out management methods, controls and reporting standards to be implemented relating to the chemical treatment of the sediment control devices required by the ESCP.

    The ChTMP shall include but not be limited to:

    (a) Specific design details of the chemical treatment system based on a rainfall activated dosing methodology for the site's sediment retention ponds and batch dosing methodology for dewatering the excavation pits;
    (b) Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
    (c) Details of optimum dosage (including assumptions);

(d) Results of initial chemical treatment trial;
(e) A spill contingency plan; and
(f) 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.

For the avoidance of doubt, the ChTMP can be prepared as a standalone plan or as part of the ESCP required by Condition 39 above.

Disposal of soil

60. Organic material and surface subsoil (immediately below topsoil) shall be disposed of to an appropriate facility approved to receive *P. agathidicida* material.

All excavated bulk fill material shall be reused on site wherever possible, and otherwise disposed of to an appropriate facility approved to receive that material.

The disposal location(s) shall be determined in collaboration with Te Kawerau ā Maki, and subject to gaining the necessary approvals shall be within the local area. Where this is not possible, then an alternate disposal location shall be determined in collaboration with Te Kawerau ā Maki.

Advice Note:
Watercare's existing Parau sludge disposal site has been identified as a potential preferred location for disposal of organic material and surface subsoil (immediately below topsoil) and for bulk earthworks material that cannot otherwise be retained or reused on site. Watercare shall undertake best endeavours to seek the necessary statutory approvals to authorise the Parau site as an approved facility in collaboration with Te Kawerau ā Maki.

E. Streamworks

61. The protocols to manage the risk of introducing or spreading kauri dieback within or off the Project Site are set out in the Kauri Dieback Management Plan (KDMP) required under Condition 24. Streamworks shall be undertaken in accordance with the relevant KDMP protocols and in accordance with Conditions 30 to 37 '*Management of kauri dieback – During works*'.

Yorke Stream Diversion Design Plan

62. The Consent Holder shall prepare a Yorke Stream Diversion Design Plan (YSDDP) for the Project. The YSDDP shall be in accordance with the recommendations and Yorke Stream SEVm-P assumptions detailed in the Addendum to Stream Ecological Value Plan by Boffa Miskell, dated 26 November 2019. The objectives of the YSDDP are to ensure the proposed diversion channel:

    (a) Mimics, where practicable, the existing stream morphology for Yorke Stream and intermittent nature of the stream (including a minimum intermittent length of 70 m); and
    (b) Achieves a Stream Ecological Value (SEV) of at least 0.65.

63. The YSDDP shall include:

    (a) Detailed design for the new length of stream, including typical long-sections and cross-sections;
    (b) Design of features that enhance instream ecology values;
    (c) A Riparian Planting Plan that aims to enhance the ecological function of the riparian zone adjacent to the diversion channel;
    (d) A programme to monitor scour and erosion at the downstream extent of the diversion channel. If monitoring identifies new erosion that is attributable to the Project by a suitable qualified engineer, the Consent Holder shall implement remedial action in the form of stream stabilisation measures;
    (e) Detailed design of any energy-reducing engineered structures required to minimise scour and erosion within the diversion channel, and at the downstream extent of the diversion channel should monitoring indicate this is required; and
    (f) An ecological monitoring programme of the diversion channel to demonstrate it provides ecological benefit.

64. The Consent Holder shall submit the YSDDP to the Council at least twenty (20) working days prior to the commencement of stream diversion works for certification that the YSDDP complies with the requirements in Conditions 62 and 63, as applicable. The YSDDP shall be prepared by a suitably qualified person.

Armstrong Stream Daylighting Design Plan

65. The Consent Holder shall prepare an Armstrong Stream Daylighting Design Plan (ASDDP) for the Project. The ASDDP shall be in accordance with the recommendations and Armstrong Stream SEVm-P assumptions detailed in the

Addendum to Stream Ecological Value Plan by Boffa Miskell, dated 26 November 2019. The objectives of the ASDDP are to ensure the proposed diversion channel:

(a) Mimics, where practicable, the existing stream morphology for Armstrong Stream and intermittent nature of the stream; and
(b) Achieves a Stream Ecological Value (SEV) of at least 0.74 for the upper section and 0.58 for the lower section.

66. The ASDDP shall include:

(a) Detailed design for the new length of stream, including typical long-sections and cross-sections;

(b) Design of features that enhance instream ecology values;

(c) Design of engineered structures to provide access and passage for climbing fish;

(d) A Riparian Planting Plan that aims to enhance the ecological function of the riparian zone adjacent to the daylighted channel; and

(e) Detailed design of any energy-reducing engineered structures required to minimise scour and erosion within the daylighted channel, and at the downstream extent of the daylighted channel should monitoring indicate this is required.

67. The Consent Holder shall submit the ASDDP to the Council at least twenty (20) working days prior to the commencement of stream daylighting works for certification that the ASDDP complies with the requirements in Conditions 65 and 66, as applicable. The ASDDP shall be prepared by a suitably qualified person.

Stream Restoration Plan

68. Prior to streamworks commencing a Stream Restoration Plan (SRP) shall be prepared in consultation with Te Kawerau ā Maki and submitted to the Council for certification. The SRP shall incorporate all recommendations from the Addendum to the Stream Ecological Valuation Plan (Boffa Miskell, November 2019), including the SEVm-P assumptions for the diversion channel and daylighting sections. The SRP shall consist of the following:

(a) Yorke intermittent stream diversion channel design including stream bank grades;

(b) Armstrong Stream daylighting channel design including stream bank grades;

(c) Long and cross sections of the stream channels demonstrating habitat heterogeneity in accordance with SEVm-P assumptions (including a minimum length of 70m for the Yorke stream diversion channel);

(d) All Riparian Planting, true right and left bank riparian widths are to be in accordance with SEVm-P assumptions;

(e) Plans identifying riparian planting zones (all measurements must be clearly depicted on the plans);

(f) Appropriate species list of eco-sourced plants including planting densities to be applied across new planting areas and any infill planting areas;

(g) All riparian planting shall be in accordance with the Auckland Regional Council Riparian Zone Management Strategy for the Auckland Region, Technical Publication 148, June 2001 (TP148);

(h) A monitoring and maintenance plan for a period of no less than ten years to ensure that a 90% survival rate and canopy closure is achieved;

(i) A weed management plan to ensure that the planting areas remain weed free for the length of the monitoring and maintenance period of ten (10) years; and

(j) A programme to monitor scour and erosion at the downstream extent of the proposed Yorke Stream diversion channel. If monitoring identifies new erosion that is attributable to the Project by a suitably qualified engineer, the Consent Holder shall implement remedial action in the form of stream stabilisation measures or similar.

69. The Stream Restoration Plan shall be completed within the following timeframes:

(a) The Armstrong Stream daylighting shall be undertaken during the first earthworks season of land disturbance associated with the construction of Reservoir 2 having commenced with riparian enhancement undertaken the following planting season.

(b) The Yorke Stream diversion channel shall be created either before, or at the same time, as the loss of the existing section of Yorke intermittent stream on the replacement WTP site.

(c) Enhancement of riparian planting along the length of the Yorke Stream diversion channel shall be undertaken, as far as practicable, immediately after completion of the diversion channel or during the following planting season. To the extent that it is not practicable to complete the enhancement planting at that time, or if further enhancement planting is required, this must be undertaken the following planting season upon completion of the construction works on the replacement WTP site.

(d) All plantings shall be carried out between the months of May to August. Written confirmation in the form of a planting completion report shall be provided to the Council, within 30 working days of the stream planting works being completed. This report shall confirm the species and number of plants planted and that the planting has been completed in accordance with the approved plans.

70. The Consent Holder shall ensure that all machinery operates from the stream banks at all times. No machinery shall enter the wetted cross section of the watercourses at any time.

71. All machinery shall be operated in a way which ensures that spillages of fuel, oil and similar contaminants are prevented, particularly during stabilisation and 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 the watercourse associated with this consent. The use of grouts and concrete products shall also be limited adjacent to the watercourse with all mixing of products carried out outside the 100-year floodplain area such that any spillage can be contained so it does not enter the Yorke Gully and Armstrong Streams.

72. Written confirmation in the form of an Offset and Compensation Report shall be provided to the Council, within 30 working days of each stage of the offset and compensation work being implemented and completed, confirming that the works have been completed in accordance with the approved Stream Restoration Plan.

73. Plant maintenance in accordance with the Stream Restoration Plan shall occur for 10 years. The 10-year period shall commence once all the naturalisation works for each respective stream have been completed. The Council shall be notified once the naturalisation planting has been completed.

Advice Note:
The ten year period can only commence once all planting has been completed to the satisfaction of the Council.

74. The Consent Holder shall monitor the SEV of the mitigation sites and the constructed stream channels at three (3), five (5) and ten (10) years after completion of the Armstrong stream daylighting and Yorke stream diversion channel creation respectively, or until the monitoring shows that the offsetting site or constructed stream channels have achieved the predicted SEV values (Table 1 and Appendix 2 of 'Addendum to Stream Ecological Valuation Plan', prepared by Boffa Miskell, dated 26 November 2019), whichever time period is the lesser. Monitoring shall be undertaken at times that avoid transient conditions, such as flood events.

75. Within two months of each round of monitoring being completed, the Consent Holder shall provide the SEV assessments and associated calculations used for monitoring the sites required by Condition 74 to the Council for written approval and comparison against the SEV values required to be met in Condition 76.

76. Where the monitoring concludes that the SEV values of the mitigation streams and constructed stream channel have not reached the predicted SEV value within ten (10) years of completion, a Further Offset Works Plan shall be prepared and submitted to the Council for approval. The Further Offset Works Plan shall include, but not be limited to the repair or improvement of mitigation works along the existing offset stream reaches to meet the predicted SEV values and further monitoring until such time that the requirements of the Further Offset Works Plan are achieved.

The SEV values to be met are:

Yorke Stream Diversion	Upper Armstrong Daylighting	Lower Armstrong Daylighting
0.65	0.74	0.58

Advice Note:
In the event that a suitably qualified freshwater ecologist determines that the predicted SEV values when planted vegetation matures are unlikely to be met, offsite mitigation works may be required. The Future Offset Works Plan can address this and must ensure no net loss of ecological function based on the SEV values of the stream reach that have been lost.

77. Where required by Condition 76, the Consent Holder shall provide the Further Offset Works Plan within six (6) months of monitoring, and shall implement the Further Offset Works Plan within six months of approval of the plan by the Council or during the next planting season (whichever is appropriate to the measures adopted).

F. Protective covenant or encumbrance

78. On completion of the works authorised under these consents, the Consent Holder shall enter into a covenant or encumbrance to:

(a) Protect the Armstrong Stream restoration areas on the existing Huia WTP site;

(b) Protect the high value SEA vegetation on the existing Huia WTP site; and

(c) Protect the high value SEA vegetation in the south west corner of the replacement WTP site and the vegetation outside of the Replacement WTP footprint; and

(d) Protect the Yorke Stream diversion channel and associated riparian planting.

Advice Note: Those areas to be protected via a covenant or encumbrance are generally shown on Hearing Plan B: Overview: Site Protection, dated 21 February 2020 (attached). The final areas to be protected will be confirmed at the detailed design stage.

The covenant or encumbrance shall:

1. Secure the protection in perpetuity of these areas from future development;

2. Require the Consent Holder to take measures to ensure that the area is maintained free of pest animals, noxious weeds, exotics and environmental pest plants; and

3. Require that the Consent Holder should, as far as practicable, refrain from doing anything within the covenanted area that could prejudice the health or ecological value of the areas of native bush to be protected, its long-term viability and/or sustainability.

G. Waima Biodiversity Trust

79. As soon as practicable after the grant of this consent and in any event prior to commencement of works being undertaken under this consent (excluding site investigations, demolition and removal of buildings and structures, and establishment of site entrances and fencing), the Consent Holder shall establish a charitable trust (the "Waima Biodiversity Trust") on the terms set out in Conditions 80 - 83, by finalising, executing and proceeding in accordance with the draft trust deed for the Trust referenced in Condition 2.

80. The resource management purposes of the Trust, as set out in the trust deed, shall be to mitigate or compensate for residual adverse ecological effects from the construction of the Replacement Water Treatment Plant and Reservoirs within an area of significant ecological vegetation.

81. The terms of the Trust Deed must, as set out in the draft trust deed, provide for the Trust to:

(a) Be established as an accountable administrative structure committed to implementing the projects and achieving the targets set out in the Waima Biodiversity Management Plan (WBMP);

(b) Provide an appropriate mechanism through which the following objectives of the WBMP can be achieved:

i. To coordinate and increase conservation efforts to protect and restore viability to populations of native flora and fauna within the Waima BMP area by:
   - Undertaking multi-species vertebrate pest management throughout the Waima BMP area to suppress pests below target thresholds, by contributing funding to an appropriate organisation or engaging suitably qualified contractors;
   - Undertaking weed management throughout land owned by the Consent Holder, public reserve land and private properties (where landowner consent has been obtained), by contributing funding to an appropriate organisation or engaging suitably qualified contractors; and
   - Monitoring of Argentine ants and effective eradication of localised populations (where assessed as viable),

ii. To repair and strengthen connective linkages throughout the Waima BMP area through promoting natural forest regeneration;

iii. To improve the health and resilience of remnant kauri forest through tree health assessments and site-specific management including on private properties;

iv. To increase community-wide engagement in stewardship and sustainable environmental management of the Waima BMP area by seeking acceptance of landowners and residents within the area for the Trust's activities on their properties; and

v. To undertake biodiversity monitoring within the Waima BMP area by using key indicator species/guilds.

(c) Facilitate setting priorities and allocating funding for projects within the Waima BMP area to achieve these objectives.

(d) Have measurable targets that the Trust is required to meet in order to achieve the objectives set out in (b) above for:

i. Multi-species vertebrate pest management throughout the Waima BMP area;
ii. Weed management throughout land owned by the consent holder and public reserve land as required;
iii. 'Kauri Rescue' procedures;
iv. Monitoring and control of Argentine ants;
v. Biodiversity monitoring using key indicator species/guilds; and
vi. Other measures as determined by the Trust to be necessary or appropriate following each annual report.

82. At least three months prior to the commencement of construction, the Consent Holder shall provide a lump sum of $5,000,000 to the Trust. For the avoidance of doubt, the Trust shall have the ability to access additional funding from other sources in addition to the Consent Holder's contribution (including from the Consent Holder itself).

83. The terms of the Trust Deed shall also, as set out in the draft Trust Deed:

(a) Require the trustees of the Trust, in relation to their appointment of additional or replacement trustees, to invite and act upon the following nominations:

i. One representative trustee from the Consent Holder;
ii. One representative trustee from the Council;
iii. One representative trustee from the CLG (established under Condition 13);
iv. One representative trustee from the Waitākere Ranges Local Board;
v. Two community representative trustees connected with local community-led conservation projects; and
vi. One mana whenua representative trustee from Te Kawerau ā Maki.

(b) Provide for the trustees of the Trust to appoint at least one additional, appropriately qualified trustee to be responsible for overseeing the Trust's financial reporting.

(c) Prescribe the basic procedures for the trustees of the Trust to govern the Trust and otherwise provide the trustees with the power to regulate their own procedures, provided that:

i. No change may be made which would alter the charitable nature of the Trust or the funding the consent holder is required to provide in Condition 82 above;

ii. The Trust is to operate for a minimum period of ten years following the grant of resource consent; and
iii. No change may be made to the objectives set out in Condition 81(b).

(d) Provide for the appointment of a person to hold the position of operations manager / project coordinator and to be responsible for:

i. Strategic and operational planning;
ii. Implementation of project initiatives; and
iii. Ongoing evaluation against the measurable targets.

(e) Require annual reporting regarding the distribution of the trust fund and reporting against the measurable targets to:

i. The Consent Holder;
ii. Auckland Council; and
iii. The CLG (established under Condition 13).

Advice Note:
For the avoidance of doubt, the role of the Council trustee identified in Condition 83(a)(ii) is completely separate from and unrelated to Council's regulatory functions regarding the conditions of this consent.

84. The Waima Biodiversity Trust does not absolve the Consent Holder of accountability for meeting the consent conditions. Compliance with the conditions of consent including the achievement of consent Conditions 85 to 92 below, is the responsibility of the Consent Holder, no matter the existence or otherwise of the Trust.

H. Waima Biodiversity Management Plan

85. Prior to the commencement of any vegetation removal works the Consent Holder shall submit a Waima Biodiversity Management Plan (WBMP) prepared by a suitably qualified and experienced ecologist and in accordance with the Assessment of Ecological Effects report, prepared by Boffa Miskell Ltd for Watercare Services, dated 21 May 2019.

86. The WBMP shall be prepared in accordance with the Draft WBMP and the Draft Pest Management Strategy for the Waima BMP Area and shall include as a minimum:

(a) Ecological enhancement works to be carried out within the Waima BMP Area in the little Muddy Creek catchment; and

(b) Control of weeds consistent with Auckland Council weed priorities; and

(c) Control of vertebrate animal pests (rats, possums, mustelids); and

(d) Undertaking of other activities that contribute to an improvement in ecological health, or the management of ecological risk (e.g. identification of kauri dieback disease areas, eradication of localised Argentine ant infestations, public education and advocacy as may be needed to achieve the stated goals of the WBMP); and

(e) Monitoring and reporting on the results and outcomes of the WMBP to Auckland Council.

87. The objectives of the WBMP shall include, but not be limited to, achieving:

(i) The agreement of the owners of at least 400 private properties, appropriately dispersed across the whole of the Waima BMP Area, to secure access for vertebrate pest control (rats, possums, mustelids); and

(ii) Progressive recruitment of the owners of private properties containing native forest to secure access for weed control.

The requirements for the WBMP shall include, but not be limited to:

(a) Control of rats, possums and mustelids over the 400 private properties to the management targets and threshold control levels for 'Years 3 and beyond' set out in Table 1 below or as otherwise determined by the Trust in accordance with Condition 89 (averaged over 400 properties, on an annual basis), for a period of no less than eight consecutive years; and

(b) Suppression of target weed species to the extent that no mature plants exist.

The WBMP shall also encourage and facilitate an integrated approach to ecological enhancement works, including weed and animal pest control, within the Waima BMP Area across publicly owned and private land.

88. The Consent Holder shall ensure that the pest control management targets and management thresholds for 'Years 3 and beyond' set out in Table 1 below, or as

otherwise determined by the Trust in accordance with Condition 89, are met and sustained for a minimum duration of eight (8) consecutive years across the Waima BMP Area.

89. The management targets and the management thresholds for initiating additional controls set out in Table 1 below shall be reflected in the WBMP, except that the Waima Biodiversity Trust can review and lower these management targets and thresholds, and can alter the monitoring frequency for year 2 and years 3 and beyond set out in Table 1.

Table 1: Pest control levels

Pest Species	***Management target***	***Management threshold for initiating additional control***	***Monitoring frequency***
Year 1 (baseline monitoring within the Waima BMP area)			
Rats	Obtain initial population abundance estimates. In areas where toxic baiting is undertaken, rat populations controlled to below 5% CCI or TTI.	Chew Card Index (CCI) or Tracking Tunnel Index (TTI) > 10%, in areas where toxic baiting has occurred	Three times within the first year within the entire Waima BMP Area. Pre and post population monitoring following any toxic baiting operations.
Possums	Obtain initial population abundance estimates. In areas where toxic baiting is undertaken, possum population controlled to below 5% CCI.	CCI > 10%, in areas where toxic baiting has occurred.	Three times within the first year within the entire Waima BMP Area. Pre and post population monitoring following any toxic baiting operations.
Mustelids	Obtain baseline population abundance estimates.	n/a	Three times within the first year within the entire Waima BMP Area.
Year 2			
Rats	Rat populations controlled to below 5% CCI or TTI, in areas where control infrastructure has been installed.	CCI or TTI > 10%, in areas where control infrastructure has been installed.	Three times per year within the entire Waima BMP Area. Pre and post population monitoring following any toxic baiting operations (additional monitoring if thresholds exceeded).

Pest Species	*Management target*	*Management threshold for initiating additional control*	*Monitoring frequency*
Possums	Possum population controlled to below 5% CCI, in areas where control infrastructure has been installed.	CCI > 10%, in areas where control infrastructure has been installed.	Three times per year within the entire Waima BMP Area. Pre and post population monitoring following any toxic baiting operations (additional monitoring if thresholds exceeded).
Mustelids	Mustelid species controlled to below 5% TTI, in areas where control infrastructure has been installed.	TTI > 10%, in areas where control infrastructure has been installed.	Three times per year within the entire Waima BMP Area.
Years 3 and beyond			
Rats	Rat populations controlled to below 5% CCI or TTI.	CCI or TTI > 10%	Three times per year within the entire Waima BMP Area. Pre and post population monitoring following any toxic baiting operations (additional monitoring if thresholds exceeded).
Possums	Possum population controlled to below 5% CCI.	CCI > 10%	Three times per year within the entire Waima BMP Area. Pre and post population monitoring following any toxic baiting operations (additional monitoring if thresholds exceeded).
Mustelids	Mustelid species controlled to below 5% TTI.	TTI > 10%	Three times per year within the entire Waima BMP Area.

Advice Notes:

1. *The management target in the first year is to obtain a population abundance estimate within the Waima BMP area as control infrastructure is being deployed.*
2. *For the avoidance of doubt, the provision in Condition 89 for the Waima Biodiversity Trust to review and* ***lower*** *the management targets and*

*thresholds in Table 1 means that the Trust can make the management targets and thresholds **more stringent**, but not less stringent.*

3. *Monitoring in areas where toxic baiting is undertaken shall generally occur within 25m of toxic bait stations for rats and within 50m of toxic bait stations for possums. Monitoring in areas where control infrastructure has been installed shall generally occur within 25m of control infrastructure for rats and within 50m of control infrastructure for possums.*

90. Where post population monitoring following any toxic baiting operations indicates that the management thresholds set out in Table 1 have not been achieved, additional controls shall be implemented to ensure the thresholds are met.

91. Where monitoring required under Condition 86 indicates that the management thresholds set out in Table 1 above are being regularly exceeded as set out below, the Consent Holder shall prepare a Further Biodiversity Works Plan.

    For the purpose of this condition, the management thresholds are considered to be exceeded where the monitoring results indicate pest populations in controlled areas:

    i. Exceed the management threshold required in multiple successive periods (i.e. are exceeded more than twice per year when monitoring operations are undertaken at least 2 to 3 months apart); and/or
    ii. Have not been suppressed significantly more than pest populations monitored in the uncontrolled areas.

    Note: It is acknowledged that seasonal variations may cause management thresholds to occasionally be exceeded. To account for this the results of monitoring will be considered based on an overall trend as opposed to a smaller seasonal window.

92. Where a Further Biodiversity Works Plan is required under Condition 91, this shall include, but not be limited to, further measures to ensure the protection, restoration and enhancement of native flora and fauna and ecosystems in the Waitakere Ranges Ecological District.

    The objective of the Further Biodiversity Works Plan is to ensure that the biodiversity benefits are at least equivalent to those that would have been achieved through meeting the management targets set out above. The Further Biodiversity Works Plan shall therefore identify additional measures to address any shortfall in biodiversity benefits.

    The Further Biodiversity Works Plan shall be prepared and submitted to the Council for approval.

93. No vegetation clearance provided for under this consent shall commence until written approval from the Council is obtained that the WBMP has been prepared in accordance with Condition 85 to the satisfaction of the Council.

I. Heritage Management

Restoration of Nihotupu Filter Station

94. The Consent Holder shall commission a suitably qualified and experienced person(s) to prepare a Heritage Management and Restoration Plan for the Nihotupu Filter Station (NHMRP). The Nihotupu Heritage Management and Restoration Plan (NHMRP) shall:

(a) Identify the heritage values of the filter station; and

(b) Identify measures to appropriately maintain, repair and restore the heritage values of the filter station in accordance with good practice conservation principles and methods; and

(c) Identify the required actions to maintain, repair and restore the filter station to ensure the building is safe and structurally sound; and

(d) Enable the use, development and adaptation of the filter station in a manner which protects heritage values and is undertaken in accordance with good practice conservation principles and methods.

The NHMRP shall include a programme for implementation of the plan such that works identified at (b) and (c) above are completed no later than 5 years after the commencement of consent.

The NHMRP shall be developed in consultation with Auckland Council (Heritage Team) and Heritage New Zealand Pouhere Taonga (HNZ), and shall be provided to Auckland Council (Heritage Team) and HNZ for review prior to it being submitted to the Council for certification. The NHMRP shall be amended to reflect any review comments where appropriate, noting where or why Auckland Council's (Heritage Team) and HNZ's recommendations were or were not adopted.

The updated NHRMP shall be provided to Council for certification in accordance with Condition 17.

Advice note: The Building Act 2004 requirements may also apply.

J. Cultural Management and Engagement Plan

95. The consent holder in collaboration with Te Kawerau ā Maki shall prepare a Cultural Management and Engagement Plan (CMEP). The objective of the CMEP is to ensure ongoing engagement with Te Kawerau ā Maki during detailed design and construction of the Project. To achieve this objective, the CMEP shall:

(a) Identify proposed cultural monitoring of topsoil removal;

(b) Identify Mana Whenua-directed procedures to be implemented in the event of an accidental discovery;

(c) Specify tree related protocols for the repurposing of felled trees that cannot be reused onsite;

(d) Specifically provide for Te Kawerau ā Maki input into the preparation and implementation of the EMP, KDMP, AMP, FBR and SRP;

(e) Specifically provide for Te Kawerau ā Maki input into selecting a preferred disposal facility to receive fill material that cannot otherwise be retained onsite (as set out in Condition 60);

(f) Specifically provide for Te Kawerau ā Maki input into the monitoring of freshwater ecology; and

(g) Identify opportunities for additional mitigation and offsetting measures taking into account those measures identified in Table 3 of the Cultural Impact Assessment (CIA). This includes, but is not limited to, input into;

(i) Stormwater treatment and design;
(ii) Interpretive panels and cultural markers; and
(iii) Incorporation of cultural design elements into built design.

96. The CMEP shall be developed in collaboration with Te Kawerau ā Maki with the final version provided to Te Kawerau ā Maki for review prior to it being submitted to the Council. The CMEP shall be amended to reflect any review comments where appropriate, noting where and why Te Kawerau ā Maki's recommendations were or were not adopted.

Advice Note:
The CMEP shall be a 'living document' and shall be regularly revisited and updated as the project progresses.

K. Traffic and transportation

Construction Traffic Management Plan

97. The Consent Holder shall prepare a Construction Traffic Management Plan (CTMP) in accordance with the Council's requirements for CTMPs and the New Zealand Transport Authority's Code of Practice for Temporary Traffic Management for each stage of the Project. The CTMP shall be in general accordance with the Draft CTMP provided as part of the application documents and shall address the management of construction traffic from the site enabling works.

98. The Consent Holder shall submit the CTMP for each stage of construction to the Council at least twenty (20) working days prior to the Commencement of Construction. The purpose of the CTMP is to provide a comprehensive document that sets out the management procedures and construction methods to be implemented to avoid, remedy or mitigate potential adverse effects on the environment arising from construction activities and shall be consistent with the information provided in the Assessment of Environmental Effects and further information provided as part of the application. No construction activity shall commence until certification is provided from the Council that the CTMP satisfactorily gives effect to the objectives in Condition 99 and complies with the requirements in Conditions 100 and 101, as applicable to the particular stage of construction, the Council's requirements for CTMPs and New Zealand Transport Authority's Code of Practice for Temporary Traffic Management, and all measures identified in the CTMP as needing to be put in place prior to commencement of works have been put in place.

99. The objectives of the CTMP are to:

    1) Limit and manage the number of construction traffic movements on the transport network;
    2) Provide for the safety of everyone at all times;
    3) Maintain pedestrian and vehicle access at all times to / from properties;
    4) Minimise disruption from construction traffic on the travelling public and road users along the identified sections of the construction routes;
    5) Seek to avoid full road closures and minimise any partial or managed closures;
    6) Manage integration with other construction projects and Auckland Transport projects;
    7) Manage the condition of roading assets to ensure road user safety and accessibility is maintained;
    8) Provide for prior engagement with relevant stakeholders, including:

        (i) when public access, particularly to properties, will be affected by construction traffic; and
        (ii) with the Principals of Schools located along identified heavy vehicle routes (Titirangi Primary School, Kaurilands School, Woodlands Park School and Glen Eden Intermediate School),

9) Provide a mechanism for addressing queries and responding to complaints (including through the CLG or similar).

100. The CTMP shall include:

(a) The traffic management measures that will be required to be implemented, including in the vicinity of the site access points and at the Woodlands Park Road / Scenic Drive intersection;
(b) A mechanism and nominated stakeholder manager responsible for receiving, addressing and monitoring queries and responding to complaints in relation to the construction works;
(c) Provision of appropriate ingress and egress routes to/from the sites for the construction vehicles, including confirmation of appropriate heavy vehicles layover areas and over-dimensional vehicle routes;
(d) For each Project stage, confirmation of typical numbers of heavy vehicle movements throughout the day for heavy vehicle access routes;
(e) Coordination with Auckland Transport regarding other construction sites and road works;
(f) Restricted parking for workers on construction sites, with parking prioritised for minor trades (i.e. those needing to bring tools for specialist activities), car / van pooling, staff working outside standard hours and mobility impaired staff / visitors;
(g) A site parking plan, including measures to restrict construction vehicles associated with this consent from parking on Woodlands Park Road, Manuka Road and Scenic Drive;
(h) Location of any shuttle bus interchange and operation of this (or similar) service to transport workers to and from the site;
(i) Location and operation of any works staging site;
(j) The Titirangi Road route as the preferred ingress and egress route to/from the sites for the construction vehicles, instead of the Atkinson Road (South), Kaurilands Road, Glendale Road, Godley Road, Golf Road and Portage Road, whenever possible unless otherwise agreed with Auckland Transport;
(k) No heavy vehicle movements, other than vehicle movements associated with concrete pours, to and from the construction sites on the Titirangi Road route during the following periods:
    (i) during morning and afternoon drop-off/pick-up periods for schools (generally being from 8:00 to 9:00 and from 14:30 to 15:30 on weekdays). Note: this restriction does not apply on public holidays and school holidays; and
    (ii) after 13:00 on Saturdays,
(l) No heavy vehicle movements, other than vehicles associated with concrete pours, to and from the construction sites on the Atkinson Road (South), Kaurilands Road and Glendale Road route during morning and afternoon pick-up/drop-off periods for schools (generally being from 8:00 to 9:00 and from 14:30 to 15:30 on weekdays excluding public holidays and school holidays), unless approved via the CTMP;
(m) No heavy vehicle movements on the Woodlands Park Road / Huia Road route (associated with any use of the Parau landfill site) during morning and

afternoon drop-off/pick-up periods for schools (generally being from 8:00 to 9:00 and from 14:30 to 15:30 on weekdays excluding public holidays and school holidays), unless approved via the CTMP;

(n) Monitoring of pavements located on haulage routes and remediation of any damage resulting from Project construction traffic in accordance with Conditions 102 to 105;

(o) Provision of heavy vehicle tracking on the proposed haulage route(s), and measures to address any conflicts, including potential removal of on-street parking as identified in the CH2M Beca Report dated 9 August 2019 (reference 6513515/s92/BUN60339273 NZ1-16354770-3);

(p) Measures to address the restricted visibility for heavy vehicles turning right out from Woodlands Park Road into Scenic Drive, in the instance that permanent improvements have not been undertaken;

(q) Specific measures to ensure safety is maintained while providing continuous access to bus stops, a continuous footpath and cycling network, and to minimise detours and additional crossing points for pedestrians and cyclists;

(r) The provision of construction traffic management staff to assist any construction trucks reversing into or out of the construction site;

(s) Monitoring of and cleaning of spillage from construction trucks onto roads or footpaths;

(t) Vegetation trimming or removal within the site to achieve sufficient sight lines from site accesses;

(u) Educating construction staff of the safety needs of pedestrians and people cycling;

(v) Provisions to ensure the ongoing ability of road pavements to withstand the proposed loading from heavy vehicles without affecting safety or behaviour of other road users; and

(w) Processes for monitoring, review and amendments to the CTMP, in particular in response to changes in the roading network including any change in the condition of roading assets.

101. The CTMP shall be prepared in consultation with the CLG in accordance with Condition 13, and in consultation with Auckland Transport and schools located along identified heavy vehicle routes (Titirangi Primary School, Kaurilands School, Woodlands Park School and Glen Eden Intermediate School).

Advice notes:
The CTMP is required to address the management of construction traffic from the site enabling works (including earthworks and vegetation clearance). Overall traffic management, including for enabling works and construction of the Water Treatment Plant (WTP) and reservoirs, will be addressed by the separate Outline Plan of Works (OPW) process and does not form part of this consent.

The heavy vehicle tracking assessment undertaken by CH2M Beca on 9 August 2019 (reference 6513515/s92/BUN60339273 NZ1-16354770-3) is sufficient to address the requirements in Conditions 100(o) unless there have

been changes to the road network that affect the conclusion of that assessment.

It is the responsibility of the consent holder to seek approval for the TMP from Auckland Transport. Contact Auckland Transport on (09) 355 3553.

All applications for temporary use of the road reserve during construction, including temporary removal of any on-street parking, must be submitted to Auckland Transport as a Corridor Access Request (CAR). The CAR application should be submitted to Auckland Transport at least 12 weeks prior to the scheduled commencement of works.

Works within the Auckland Transport road reserve will require a Works Access Permit and Engineering Plan Approval from Auckland Transport.

Pavement Impact Assessment

102. Prior to the activity approved in this consent and to the satisfaction of the Council, the Consent Holder shall provide a Pavement Impact Assessment (PIA) undertaken by a suitably qualified pavement engineer to determine the current condition of the pavement on Woodlands Park Road between the sites access(es) and Scenic Drive and other sections of haulage routes. The PIA shall include the following sections of road (where they are used as haulage routes):

    (a) Woodlands Park Road, between the site access(es) and Scenic Drive;

    (b) Scenic Drive, between Woodlands Park Road and Titirangi Road;

    (c) Atkinson Road, for a distance of 100m from the intersection with Titirangi Road;

    (d) Titirangi Road, for a distance of 100m from the intersection with Atkinson Road;

    (e) Woodlands Park Road, between the site access(es) and Huia Road (in the instance of the Parau fill site being used); and

    (f) Huia Road, between Woodlands Park Road and the Parau fill site (in the instance of the Parau fill site being used).

103. The Consent Holder shall arrange a site meeting with the Council and Auckland Transport's Asset Roading Manager to discuss the findings of the PIA and to agree on the existing condition of Auckland Transport assets on the haulage routes.

104. As part of the PIA, the Consent Holder shall include a monitoring plan to monitor and report on any damage to public roads, footpaths, berms, curbs or drains, along the haulage routes identified in Condition 102, as a result of the enabling earthworks activities. The PIA and associated monitoring plan shall be provided to Council for certification in accordance with Condition 17.

105. Should the monitoring plan required by Condition 104 show that damage has occurred, Auckland Council shall be notified within 24 hours of its discovery (or immediately where the damage presents a safety hazard). The costs of rectifying such damage and restoring the asset to its original condition will be met by the Consent Holder.

Woodland Park Road / Scenic Drive intersection upgrade

106. The Consent Holder shall upgrade the intersection of Woodlands Park Road and Scenic Drive subject to obtaining all necessary approvals.

This work shall be undertaken in general accordance with the draft Scenic Drive Intersection plan prepared by Beca and Boffa Miskell, dated 27 February 2018, as updated and finalised through consultation with Auckland Transport. The final design shall be provided to Council for written approval in accordance with Condition 17.
The Consent Holder shall take all reasonably practicable steps to implement the final design such that the works are completed no later than 5 years after the commencement of consent. This work shall be undertaken at the Consent Holder's cost and in accordance with the draft Scenic Drive Intersection plan prepared by Beca and Boffa Miskell, dated 27 February 2018, as updated and finalised through consultation with Auckland Transport. The final design shall be provided to Council for certification in accordance with Condition 17.

Advice note: The consent holder shall be responsible for meeting CAR and other requirements that may apply.

L. Construction Noise and Vibration

Construction Noise and Vibration Management Plan

107. The Consent Holder shall prepare a Construction Noise and Vibration Management Plan (CNVMP) for each stage of the Project that addresses the management of construction noise and vibration from the site enabling works. The CNVMP shall be submitted to the Council no less than twenty (20) working days prior to works on that stage commencing (excluding site investigations and establishment of site entrances and fencing) for certification that the CNVMP complies with the requirements of Conditions 108 to 116, as applicable. The CNVMP shall be prepared by a suitably qualified person and in accordance with the Draft CNVMP.

108. An Activity Specific Construction Noise and Vibration Management Plan (ASCNVMP) shall be prepared for any night-time works or works predicted to exceed the project construction noise limits and shall be appended to the main CNVMP. An ASCNVMP shall be submitted to the Council no less than twenty (20) working days prior to works on that stage commencing for written approval that the ASCNVMP complies with the requirements of Conditions 108 to 116, as applicable.

109. Noise from activities shall where practicable comply with the limits contained in Table E25.6.27(1) of the AUP(OP) as modified by Standard E25.6.27(4).

110. Earthworks and associated construction activities (i.e. which involve heavy machinery or high noise-producing equipment) shall be limited to 7:30 am – 6:00 pm Monday to Friday and 8:00 am – 5:00 pm Saturdays except as provided for through an ASCNVMP. Construction activities which do not involve the use of heavy machinery or other high noise-producing equipment are permitted outside these hours provided they comply with the relevant AUP limits or are supported by an ASCNVMP.

111. Noise from construction work activity shall be measured and assessed in accordance with the requirements of New Zealand Standard NZS 6803:1999 Acoustics – Construction noise.

112. Tonal reverse alarms on vehicles shall not be used on the site. Broadband reverse alarms are permitted.

113. Vibration levels arising from construction work activity of more than three days in a given location shall comply with Standard E25.6.30(1A)(b), Table E25.6.30.1, of the AUP(OP) or limits otherwise approved through an ASCNVMP.

114. Vibration levels arising from construction work activity of three days or less in a given location shall comply with the limits stipulated in Standard E25.6.30(1A)(a) of the AUP(OP), as set out in German Industrial Standard DIN 4150-3 (1999) Structural Vibration – Part 3 Effects of Vibration on Structures, when measured in accordance with that standard.

115. The Consent Holder shall engage a suitably qualified acoustic specialist to prepare the CNVMP and ASCNVMPs (where required) to identify how Conditions 109, 113 and 114 will be met. The objective of the CNVMP / ASCNVMP is to identify the best

practicable option for management and mitigation of all construction noise and vibration, including where full compliance with the levels in Conditions 109, 113 and 114 cannot be achieved at all times.

The CNVMP / ASCNVMP shall as a minimum include, but not be limited to, the following information:

(a) Construction noise/vibration criteria;

(b) Identification of the most affected premises where there exists the potential for noise/vibration effects and the methodology for communication and consultation with these stakeholders;

(c) Description and duration of the works, anticipated equipment and the processes to be undertaken including general acoustic management and mitigation measures proposed to be implemented throughout the course of the Project consistent with best practice;

(d) Hours of operation, including specific times and days when construction activities causing noise/vibration would occur;

(e) Mitigation options where noise/vibration levels are predicted or demonstrated to approach or exceed the relevant limits. Specific noise/vibration mitigation measures must be implemented which may include, but are not limited to, acoustic screening, time management procedures and alternative excavation / construction / piling method technologies;

(f) Identification of the nearest sensitive receptors and approach to pre- and post-construction building condition surveys at these locations where vibration limits in Condition 114 will be exceeded and where agreed to with the owners of adjacent sites;

(g) The erection of temporary construction noise barriers, enclosures or other mitigation measures where appropriate;

(h) Schedule and methods for monitoring and reporting on construction noise/vibration;

(i) Details of noise/vibration monitoring to be undertaken in the event of any complaints received. The results of such monitoring shall be submitted to the Council within one week of receiving the complaint;

(j) Implementation of a complaint management system with contact numbers for key construction staff responsible for the implementation of the CNVMP and complaint investigation. This system should include procedures for maintaining contact with stakeholders, notifying of proposed construction activities and handling of noise/vibration complaints;

(k) Notification shall be provided to the owners and occupiers of adjacent buildings prior to construction activities commencing on the site; and

(l) Training procedures for construction personnel.

116. The CNVMP shall be prepared in consultation with the CLG in accordance with Condition 13.

Advice note:
The CNVMP required by Condition 107 is required to address the management of construction noise and vibration from the site enabling works (including earthworks and vegetation clearance), and not construction of the WTP and reservoirs which is addressed by the separate OPW process and does not form part of this consent.

M. Stormwater

Stormwater diversion and discharge – permanent structures

117. The detailed design, including drawings, specification, design report and calculations for permanent stormwater management devices for each stage (or stages) of the Project shall be submitted to the Council for certification and at least 20 working days prior to initiation of construction of the devices for that stage / stages.

118. The Consent Holder shall ensure (through detailed design) that stormwater management devices are designed in accordance with the Council's guidance document GD01 '*Stormwater Management Devices in the Auckland Region'*. The detailed design shall be constructed for the following catchment areas and design requirements, and shall be completed prior to discharges commencing from the site:

Works to be undertaken	**Catchment Area (ha)**	**Design Requirements**
Existing Dry Detention Pond	3.139	Retention of 5mm runoff depth from impervious areas. Detention of the 95th percentile storm (SMAF1) and slow release over a 24-hour period minus any retention volume that is achieved from impervious areas, with the remaining volume which cannot be achieved substituted as additional detention. Peak flow attenuation of the 10 year ARI storm event to predevelopment levels. Peak flow attenuation of the 100 year event to pre-development level.
Proposed Permanent_Dry Pond	1.224	Retention of 5mm runoff depth from impervious areas. Detention of the 95th percentile storm (SMAF1) and slow release over a 24-hour period minus any retention volume that is achieved from impervious area, with the remaining retention volume which cannot be

		achieved substituted as additional detention. Peak flow attenuation of the 10 year ARI storm event to predevelopment levels. Peak flow attenuation of the 100 year event to predevelopment levels
Roof material	All	Inert materials only and no exposed unpainted metal surfaces.
Stormwater outfalls	Varies	Erosion protection measures in accordance with TR2013_018 or higher standard
Proprietary devices or equivalent water quality solution in accordance with GD01	Varies	Water Quality treatment of all trafficable impervious areas in accordance with manufacturers specifications or GD01 (or higher standard).

119. A final site plan with stormwater management features and supporting calculations shall be provided to the Council for certification prior to the commencement of works. The final site plan must give due consideration to additional stormwater treatment measures that achieve stormwater quality benefits for the Project Site. Consideration shall be given to providing living roofs on one or both of the reservoirs in accordance with the Council's Guidance Document GD01.

120. In the event that any modifications to the stormwater management system are required, 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 the Council for certification prior to implementation.

121. For stormwater flows in excess of the capacity of the primary drainage systems, overland flow paths shall be provided and maintained to allow surplus stormwater from critical storms, up to the 100 year Annual Recurrence Interval (ARI) event, to discharge with the minimum of nuisance and damage to properties. Overland flow paths shall be kept free of all obstructions.

Stormwater Management – post construction

122. A post-construction meeting site shall be held by the consent holder, within 20 working days of completion of the stormwater management works, that:

(a) Includes representation from the Council; and

(b) 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

Certification of stormwater management works (As-Built Plans)

123. As-built certification and plans of the stormwater management works, which are certified (signed) by a suitable qualified registered surveyor as a true record of the stormwater management system, shall be provided to the Council for certification 5 working days prior to the post-construction meeting required by this consent.

124. 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) Documentation of any discrepancies between the design plans and the As-Built plans approved by the Modifications Approval condition.

Advice Note: Post construction certification may be undertaken in stages to allow for staged completion of the stormwater management works associated with the replacement WTP, Reservoir 1 and Reservoir 2.

Operation and Maintenance Plan

125. An Operation and Maintenance Plan shall be submitted to Council for certification 5 working days prior to the post-construction meeting required by this consent.

126. The Operation and Maintenance Plan shall set out how the stormwater management system is to be operated and maintained to ensure that adverse environmental effects are minimised. The plan shall include:

(a) Details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process;

(b) A programme for regular maintenance and inspection of the stormwater management system;

(c) A programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices;

(d) A programme for post storm inspection and maintenance;

(e) General inspection checklists for all aspects of the stormwater management system, including visual checks; and

(f) A copy of any current maintenance contract.

127. The stormwater management system shall be managed in accordance with the certified Operation and Maintenance Plan. Any amendments or alterations to the Operation and Maintenance Plan shall be submitted to, and certified by Council in writing prior to implementation.

128. The Operation and Maintenance Plan shall be updated and submitted to Council for certification, on request.

Specialist Maintenance Contract

129. Where applicable, a written maintenance contract for the on-going maintenance of the proprietary device(s) shall be entered into with an appropriate stormwater management system operator, prior to the operation of the proprietary stormwater management device(s). A written maintenance contract shall be in place and maintained for the duration of the consent. A signed copy of the maintenance contract for the first three (3) years of operation shall be forwarded to the Council a minimum of 5 working days prior to the post-construction meeting required by this consent. A copy of the current maintenance contract shall be provided to the Council upon request throughout the duration of the consent.

Advice Note: Due to the nature of the surrounding contributing area, being a dense bush catchment, a higher than typically anticipated maintenance frequency is expected. The maintenance frequency of the propriety devices shall be determined by the device loading and as recommended by the specialist maintenance provider.

Maintenance Report

130. Details of all inspections and maintenance for the stormwater management system, for the preceding three (3) years, shall be retained. A maintenance report shall be provided to the Council on request. The maintenance report shall include the following information:

(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.

N. Contaminated land

Contaminated soil disturbance

131. The Consent Holder shall engage a suitably qualified and experienced practitioner to undertake soil investigations in according to Section 4 of the *Site Management Plan for Ground Contamination* (Tonkin & Taylor, May 2019) (SMP*),* and at least 10 working days prior to commencement of earthworks, provide to the acceptance of the Council a Detailed Site Investigation report (DSI) confirming the site soil contamination status.

132. The consent holder shall include additional soil investigation within the former workshop and chemical store area into the sampling plan in the SMP and engage a suitably qualified and experienced practitioner to undertake soil sampling and testing following the demolition of the existing chlorine building within the Reservoir 2 area, and include any test results into the DSI required by Condition 131 (or as a later update or addendum to the DSI).

133. The Consent Holder shall engage an asbestos surveyor to carry out an inspection of that part of the existing Huia WTP building to be demolished prior to demolition commencing. This shall be to confirm and identify the presence of lead-based paint and any (potential) asbestos containing material (ACM) within the building structures proposed to be demolished. The survey results shall be included into the DSI required by Condition 131 or as a latter update or addendum to that DSI.

134. If the survey required by Condition 133 demonstrates there is the potential of soil contamination from lead-based paint and/asbestos/ACM, the Consent Holder shall include the soil investigation of the existing WTP site into the sampling plan proposed in the SMP, and include the test results in the DSI required by Condition 131 (or as later updates or addendums to the SMP and DSI);

135. If the DSI required by Condition 131 shows the level of soil contamination present at the site requires additional controls, the Consent Holder shall at least 10 working days prior to commencement of earthworks provide an updated SMP or a combined Remedial Action Plan/SMP (when required) for certification to the Council.

Management of contaminated soil – during earthworks

136. The Consent Holder shall carry out earthworks and implement the control measures in accordance with an approved Site Management Plan (SMP). Any changes to the SMP shall be certified by the Council.

137. Excavated soil or waste from areas where a DSI (or later update or addendum to the DSI) identifies that contamination exceeds the applicable health and environmental criteria shall be managed on site in accordance with the updated Site Management Plan or shall be disposed of at a disposal site, which is authorised by the Council to accept the relevant levels of contamination. If the Parau Landfill is chosen as an alternative disposal site, written confirmation shall be provided to the Monitoring Team Leader to confirm that Parau Landfill has appropriate consent, at

least five working days prior to the disposal commencing. Copies of the disposal dockets for any contaminated material removed from the sites shall be retained.

138. The Consent Holder shall not result in any airborne and deposited dust beyond the property boundary of the site that is determined to be noxious, objectionable or offensive. Good practice measures, such as those described the *Good Practice Guide for Assessing and Managing Dust* (Ministry for the Environment 2016) shall be adopted at all times.

139. If evidence of contamination, which has not been previously identified is discovered during any excavation at the site, the Consent Holder shall immediately cease the works in the vicinity of the material and notify the Council and agree on appropriate remediation and validation actions.

140. The Consent Holder shall ensure that the contamination level of any imported soil complies with the definition of 'Cleanfill material', as per the AUP(OP). Any imported material shall be solid material of an inert nature and must not contain hazardous substances or contaminants above natural background levels of the receiving site. Imported soils shall be tested at a rate of 1 per 1,000m^3 of material imported to the site except that sampling is not required for hard-fill material sourced from a commercial quarry.

141. All land disturbance works shall be managed to minimise any discharge of debris, soil, silt, sediment or sediment-laden water from beyond the subject site to either land, stormwater drainage systems, watercourses or receiving waters.

142. Any perched groundwater or surface water encountered within the excavation area, where the DSI and any later update or addendum to the DSI shows that the concentrations of soil contaminants exceed the permitted activity soil acceptance criteria specified in Table E30.6.1.4.1 or E30.6.1.4.2 of Chapter E30 of the AUP(OP), requiring removal shall be considered potentially contaminated and shall be:

    (a) disposed of by a licenced liquid waste contractor; or

    (b) pumped to sewer, providing the relevant permits are obtained; or

    (c) discharged to the site's stormwater system or surface waters provided testing demonstrates compliance with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000)* for the protection of 80 percent of species, except for benzene where 95 percent of species shall apply; and

    (d) free from petroleum hydrocarbons.

    Advice Note:
    All testing and analysis should be undertaken in a laboratory with suitable experience and ability to carry out the analysis. For more details on how to confirm the suitability of the laboratory please refer to Part 4: Laboratory Analysis, of Contaminated Land Management Guidelines No.5.

Site Validation Report – Post-completion

143. The Consent Holder shall, within three months following the completion of the earthworks from areas where a DSI and a later update or addendum to the DSI identifies that contamination exceeds the applicable human health and environmental criteria, provide to the acceptance of the Council a Site Validation Report (SVR). The Site SVR shall include, but not be limited to:

(a) confirmation of performance of earthworks, remediation (if required) conducted in accordance with approved plans and consent conditions;

(b) details and tabulated results of testing undertaken including testing of soil, water, vapour, and interpretation of the results in the context of the National Environmental Standard for Assessing the Managing Contaminants to Soil to Protect Human Health (NES Soil) and Chapter E30 of the AUP(OP);

(c) any unexpected contamination identified during excavation on the site and response actions;

(d) volume of soil excavated from the site, disposed off-site and landfill receipts; and

(e) any complaints received and response during remediation works.

Advice note:

Site validation reporting may be undertaken in stages to allow for staged completion of the disturbance works within contaminated land.

O. Groundwater diversion

Groundwater definitions

Words in the ground dewatering (take) and groundwater diversion consent conditions below have specific meanings as outlined in the table below.

Alarm Level	Specific levels at which actions are required as described in the relevant conditions.
Alert Level	Specific levels at which actions are required as described in the relevant conditions.
Completion of Dewatering	Means, in the case of a tanked building or structure construction, the stage when all the external base slab and walls are essentially watertight, the structures internal support mechanisms, including basement floors have been completed any temporary retention removed and no further groundwater is being taken for the construction of the basement.
Commencement of Excavation	Means commencement of Bulk Excavation or excavation below the water table.
Completion of Construction	Means when the Code Compliance Certificate (CCC) is issued by Auckland Council
Completion of Excavation	Means the stage when all Bulk Excavation has been completed and all foundation/footing excavations within 10 meters of the perimeter retaining wall have been completed.
Condition Survey	Means an external visual inspection or a detailed condition survey (as defined in the relevant conditions).
Damage	Includes Aesthetic, Serviceability, Stability, but does not include Negligible Damage. Damage as described in the table below.
External visual inspection	A condition survey undertaken for the purpose of detecting any new external Damage or deterioration of existing external Damage. Includes as a minimum a visual inspection of the exterior and a dated photographic record of all observable exterior Damage.
GSMCP	Means Groundwater and Settlement Monitoring and Contingency Plan
Monitoring Station	Means any monitoring instrument including a ground or building deformation station, inclinometer, groundwater monitoring bore, retaining wall deflection station, or other monitoring device required by this consent.
RL	Means Reduced Level.
Seasonal Low Groundwater Level	Means the annual lowest groundwater level – which typically occurs in summer.
Services	Include fibre optic cables, sanitary drainage, stormwater drainage, gas and water mains, power and telephone installations and infrastructure, road infrastructure assets such as footpaths, curbs, catch-pits, pavements and street furniture.
SQEP	Means Suitably Qualified Engineering Professional
SQBS	Means Suitably Qualified Building Surveyor

Table 2: Building Damage Classification

Category of Damage	Normal Degree of Severity	Description of Typical Damage	General Category
0	Negligible	Hairline cracks.	**Aesthetic Damage**
1	Very Slight	Fine cracks easily treated during normal redecoration. Perhaps isolated slight fracture in building. Cracks in exterior visible upon close inspection. Typical crack widths up to 1mm.	
2	Slight	Cracks easily filled. Redecoration probably required. Several slight fractures inside building. Exterior cracks visible, some repainting may be required for weather-tightness. Doors and windows may stick slightly. Typically crack widths up to 5mm.	
3	Moderate	Cracks may require cutting out and patching. Recurrent cracks can be masked by suitable linings. Brick pointing and possible replacement of a small amount of exterior brickwork may be required. Doors and windows sticking. Utility services may be interrupted. Weather tightness often impaired. Typical crack widths are 5mm to 15mm or several greater than 3mm.	**Serviceability Damage**
4	Severe	Extensive repair involving removal and replacement of walls especially over door and windows required. Window and door frames distorted. Floor slopes noticeably. Walls lean or bulge noticeably. Some loss of bearing in beams. Utility services disrupted. Typical crack widths are 15mm to 25mm but also depend on the number of cracks.	
5	Very Severe	Major repair required involving partial or complete reconstruction. Beams lose bearing, walls lean badly and require shoring. Windows broken by distortion. Danger of instability. Typical crack widths are greater than 25mm but depend on the number of cracks.	**Stability Damage**

Note: In the table above the column headed "Description of Typical Damage" applies to masonry buildings only and the column headed "General Category" applies to all buildings.

Notice of Commencement of Dewatering

144. The Council shall be advised in writing at least 10 working days prior to the date of the Commencement of Dewatering.

Design of Excavations and Retaining Systems

145. The design and construction of the excavations, shafts, fill platform, retaining walls and permanent drainage system shall be undertaken in general accordance with the specifications contained in the groundwater and settlement reports referenced in Condition 2.

Excavation Limit

146. The Bulk Excavation shall not extend below a depth demonstrated through detailed investigations and analysis to result in groundwater and settlement effects greater than predicted in the information submitted with the Application referred to in Condition 2. This shall be demonstrated in the Geotechnical Interpretive / Design Report required under Condition 154.

Performance Standards

Damage avoidance

147. All excavation, dewatering systems, retaining structures and works associated with the diversion or taking of groundwater, shall be designed, constructed and maintained so as to avoid Damage to buildings, structures and Services on the site or adjacent properties, outside that considered as part of the application process unless otherwise agreed in writing with the asset owner.

Alert and alarm levels

148. The activity shall not cause any settlement or movement greater than the Alarm Level thresholds specified in Schedule A below. Alert and Alarm Levels are triggered when the following Alert and Alarm Trigger thresholds are exceeded:

Schedule A: Alarm and Alert Levels			
Movement		**Trigger Thresholds (+/-)**	
		Alert	**Alarm**
a)	Differential vertical settlement between any two Ground Surface Deformation Stations (the **Differential Ground Surface Settlement Alarm or Alert Level**): • GS1 to GS18	1:750	1:550
b)	Total vertical settlement from the pre-excavation baseline level at any Ground Surface Deformation Station (the **Total Ground Surface Settlement Alarm or Alert Level**): • G1, G2, G10, G11, G12, G14, G15, G16, G17 and G18 • G13 • G3, G4, G8 and G9 • G5, G6 and G7	7 mm 20 mm 40 mm 80 mm	10 mm 25 mm 50 mm 95 mm
c)	Total lateral deflection from the pre-excavation baseline level at any retaining wall deflection station (the **Retaining Wall Deflection Alarm or Alert Level**): • RW1 to RW5	32 mm	40 mm
d)	Distance below the pre-dewatering Seasonal Low Groundwater Level and any subsequent groundwater reading at any groundwater monitoring bore (the **Groundwater Alert Levels 1 & 2**):	n/a	(1) 80% of calculated (2) 100% of calculated

Advice Note:
The locations of the Monitoring Stations listed in Schedule A are shown on the drawing entitled "Proposed monitoring points" prepared by Tonkin & Taylor Ltd, Figure No. A3, and appended to the s92 response dated 13 August 2019.

These levels may be amended subject to approval by the Council as part of the Groundwater Settlement Monitoring and Contingency Plan (GSMCP) approval process, and, after the receipt of pre-dewatering monitoring data, condition surveys and recommendations from a suitably qualified engineering professional (SQEP), but only to the extent that avoidance of Damage to building, structures and Services can still be achieved.

There are conditions below that must be complied with when the Alert and Alarm Level triggers are exceeded. These include actions that must be taken immediately including seeking the advice of a SQEP.

Alert level actions

149. In the event of any Alert Level being exceeded the Consent Holder shall:

(a) Notify the Council within 24 hours.

(b) Re-measure all Monitoring Stations within 50m of the affected monitoring location(s) to confirm the extent of apparent movement.

(c) Ensure the data is reviewed, and advice provided, by a SQEP on the need for mitigation measures or other actions necessary to avoid further deformation. Where mitigation measures or other actions are recommended those measures shall be implemented.

(d) Submit a written report, prepared by the SQEP responsible for overviewing the monitoring, to the Council within five working days of Alert Level exceedance. The report shall provide an analysis of all monitoring data (including wall deflection) relating to the exceedance, actions taken to date to address the issue, recommendations for additional monitoring (i.e. the need for increased frequency or repeat condition survey(s) of building or structures) and recommendations for future remedial actions necessary to prevent Alarm Levels being exceeded.

(e) Measure and record all Monitoring Stations within 50m of the location of any Alert Level exceedance every two days until such time the written report referred to above has been submitted to the Council.

Alarm level actions

150. In the event of any Alarm Level being exceeded at any ground deformation pin, building deformation pin, retaining wall deflection pin or inclinometer Monitoring Station required by this consent, the Consent Holder shall:

(a) Immediately halt construction activity, including excavation, dewatering or any other works that may result in increased deformation, unless halting the activity is considered by a SQEP to be likely to be more harmful (in terms of effects on the environment) than continuing to carry out the activity.

(b) Notify the Council within 24 hours of the Alarm Level exceedance being detected and provide details of the measurements taken.

(c) Undertake a condition survey (this could comprise either a detailed condition survey or an external visual inspection at the discretion of the SQEP responsible for overviewing the monitoring) by a SQEP or suitably qualified building surveyor (SQBS) of any building or structure located adjacent to any Monitoring Station where the Alarm Level has been exceeded.

(d) Take advice from the author of the Alert Level exceedance report (if there was one) on actions required to avoid, remedy or mitigate adverse effects on ground, buildings or structures that may occur as a result of the exceedance.

(e) Not resume construction activities (or any associated activities), halted in accordance with (a) above, until any mitigation measures (recommended in accordance with (d) above) have been implemented to the satisfaction of a SQEP.

(f) Submit a written report, prepared by the SQEP responsible for overviewing the monitoring, to the Council, on the results of the condition survey(s), the mitigation measures implemented and any remedial works and/or agreements with affected parties within five working days of recommencement of works.

Groundwater and Settlement Monitoring and Contingency Plan (GSMCP)

151. At least twenty (20) working days prior to the Commencement of Dewatering, a final Groundwater and Settlement Monitoring and Contingency Plan (GSMCP) prepared by a SQEP and in accordance with the Draft GSMCP, shall be submitted to the Council for written approval in accordance with Condition 17. No dewatering activities shall commence on site until written approval is provided from the Council that the GSMCP meets the conditions of consent.

The overall objective of the GSMCP shall be to set out the practices and procedures to be adopted to ensure compliance with the consent conditions and shall include, at a minimum, the following information:

(a) A monitoring location plan, showing the location and type of all Monitoring Stations including groundwater monitoring bores, ground and building deformation pins and retaining wall deflection pins. The monitoring plan should be based on the drawing entitled "*Proposed monitoring points*" prepared by Tonkin & Taylor Ltd, Figure No. A3, and appended to the s92 response dated 13 August 2019. In any case where the location of a Monitoring Station differs substantively from that shown on the drawing entitled "*Proposed monitoring points*" prepared by Tonkin & Taylor Ltd, Figure No. A3, and appended to the s92 response dated 13 August 2019, a written explanation for the difference shall be provided at the same time that the final GSMCP is provided.

(b) Final completed Schedules B to E (as per the conditions below) for monitoring of groundwater drawdown, and, ground surface, building and retaining wall deformation (including any proposed changes to the monitoring frequency) as required by conditions below.

(c) All monitoring data, the identification of Services susceptible to Damage and all building/Service condition surveys undertaken to date and required by conditions below.

(d) A bar chart or a schedule, showing the timing and frequency of condition surveys, visual inspections and all other monitoring required by this consent, and a sample report template for the required two monthly monitoring.

(e) All Alert and Alarm Level Triggers (including reasons if changes to such are proposed, for example as a result of recommendations in the building condition surveys or data obtained from pre-dewatering monitoring).

(f) Details of the contingency actions to be implemented if Alert or Alarm Levels are exceeded.

The consent holder may request amendments to the GSMCP in writing to the Council for approval at least 10 working days prior to any changes taking effect. Any changes to the GSMCP shall remain consistent with the overall intent of the GSMCP and shall be consistent with the requirements of the relevant conditions of these consents. No changes shall take effect without the prior approval of the Council

152. All construction, dewatering, monitoring and contingency actions shall be carried out in accordance with the approved GSMCP.

Additional geotechnical investigations

153. Prior to the submission of the GSMCP, additional investigations as shown on the drawing titled "*Indicative Geotechnical Investigation Plan*" appended to the s92 response letter dated 15 July 2019 are to be undertaken:

(a) A minimum of two boreholes shall be drilled to 50m depth to investigate large-scale instability within the rock mass.

(b) A nested or piezometer pair (PZW1 and PZW2) shall be installed immediately adjacent to, and a stilling well (SW1) shall be installed within, the Kahikatea wetland along the western boundary of the reservoir 1 site.
The stilling well shall be monitored to determine surface water level in the wetland. The piezometer shall include one shallow piezometer at the same level as the wetland and a deeper piezometer screened in the expected upper groundwater level.
The stilling well and piezometer shall be monitored for a minimum of 12 months to determine vertical gradients in the vicinity of the wetland and if there is any groundwater – surface water connection.

154. The results of the investigation are to be summarised in a Geotechnical Interpretive / Design report and reporting shall include: confirmation sufficient investigation has been undertaken to address uncertainties and confirm the ground model (including deep-seated instability, geotechnical and hydrogeological parameters, and groundwater-surface water connection), confirmation of groundwater levels across the site(s), updated assessments of global stability, a summary of detailed design analyses undertaken and an updated assessment of environmental effects where different to that presented at the time of consenting, and detail any residual geotechnical risks that may not be fully addressed by the design.

Pre-Dewatering Building and Structure Survey

155. The Consent Holder shall undertake a risk assessment to identify existing buildings and structures at risk of damage due to settlement caused by the project. The risk assessment process and results shall be set out in the GSMCP required by Condition 151 and shall be based upon the additional site investigation and analyses, and final design and construction methodology. The risk assessment shall include:

(a) Identification of the zone of settlement or ground movement influence;

(b) Identification of the building types in this zone, and their susceptibility to ground movement induced damage;

(c) Identification of the buildings and structures at risk of damage due to the project works and requirements for monitoring; and

156. Where the risk assessment required by Condition 155 above identifies existing buildings and structures at risk of damage due to settlement caused by the project, a detailed condition survey of those buildings and structures shall be undertaken by a SQEP or SQBS and a written report shall be prepared and reviewed by the SQEP responsible for overviewing the monitoring. The report shall be submitted for certification by the Council.

The detailed condition survey shall include:

(a) Confirmation of the installation of any required building deformation stations;

(b) A description of the type of foundations;

(c) A description of existing levels of Damage considered to be of an aesthetic or superficial nature;

(d) A description of existing levels of Damage considered to affect the serviceability of the building where visually apparent without recourse to intrusive or destructive investigation;

(e) An assessment as to whether existing Damage may or may not be associated with actual structural Damage and an assessment of the susceptibility of buildings/structures to further movement and Damage;

(f) Photographic evidence of existing observable Damage;

(g) A review of proposed Alarm and Alert Levels to confirm they are appropriately set and confirmation that any ground settlement less than the Alarm Level will not cause Damage;

(h) An assessment of whether the monitoring frequency is appropriate; and

(i) An assessment of whether the locations and density of existing ground and building deformation stations are adequate and appropriate for the effective detection of change to building and structure condition.

This condition does not apply where written evidence is provided to the Council that the owner of a property has confirmed they do not require a detailed condition survey.

Pre-Dewatering Services Condition Survey

157. Prior to the Commencement of Dewatering, a condition survey of potentially affected stormwater services shall be undertaken in consultation with the relevant service provider.

This condition does not apply to any service where written evidence is provided to the Council that the owner of that service has confirmed they do not require a condition survey.

External Visual Inspections during Dewatering

158. External visual inspections of the surrounding ground (including Scenic Drive, Woodlands Park Road and Manuka Road) and any neighbouring buildings and structures identified through the risk assessment required by Conditions 155 and 156 shall be undertaken for the purpose of detecting any new external Damage or deterioration of existing external Damage.

Inspections are to be carried out weekly from the Commencement to Completion of Dewatering. A photographic record is to be kept, including time and date, of each inspection and all observations made during the inspection, and should be of a quality that is fit for purpose.

The results of the external visual inspections and an assessment of the results are to be reviewed by the SQEP responsible for overviewing the monitoring and included in the bimonthly monitoring report for the relevant monitoring period.

Completion of Dewatering - Building, Structure and Service Condition Surveys

159. Between six and twelve months after Completion of Dewatering a detailed condition survey of all previously surveyed buildings, structures and stormwater Services, shall be undertaken by a SQEP or SQBS and a written report shall be prepared. The report is to be reviewed by the SQEP responsible for overviewing the monitoring and then submitted to the Council, within one month of completion of the survey.

The condition survey report shall make specific comment on those matters identified in the pre-dewatering condition survey. It shall also identify any new Damage that has occurred since the pre-dewatering condition survey was undertaken and provide an assessment of the likely cause of any such Damage.

This condition does not apply to any building, structure or Service where written evidence is provided to the Council confirming that the owner of that building, structure, or Service does not require a condition survey to be undertaken.

Additional surveys

160. Additional condition surveys of any building, structure, or Service within the area defined by the extent of groundwater drawdown or ground movement (as defined in the reports titled “Addendum to the Groundwater and Settlement Report, prepared by T+T, dated July 2019, Ref 30848.2000”) shall be undertaken, if requested by the Council, for the purpose of investigating any Damage potentially caused by ground movement resulting from dewatering or retaining wall deflection. A written report of the results of the survey shall be prepared and/or reviewed by the SQEP responsible for overviewing the monitoring. The report shall be submitted to the Council.

161. The requirement for any such additional condition survey will cease six months after the Completion of Dewatering unless ground settlement or building deformation monitoring indicates movement is still occurring at a level that may result in Damage

to buildings, structures, or Services. In such circumstances the period where additional condition surveys may be required will be extended until monitoring shows that movement has stabilised and the risk of Damage to buildings, structures and Services as a result of the dewatering is no longer present.

Groundwater monitoring

162. Groundwater monitoring is to be undertaken at the groundwater monitoring bore locations shown on the drawing entitled "*Proposed monitoring points*" prepared by Tonkin & Taylor Ltd, Figure No. A3, and appended to the s92 response dated 13 August 2019, or in the approved GSMCP. Water level monitoring shall also be undertaken in and adjacent to the Kahikatea wetland. Groundwater level monitoring is to be undertaken in accordance with Schedule C below:

Schedule C: Groundwater Monitoring Frequency					
Bore Name	**Location**		**Groundwater level monitoring frequency** (to an accuracy of 10mm)		
	Easting (m E)	Northing (m N)	From bore construction until one month before Commencement of Dewatering	One month before Commencement of Dewatering to Completion of Dewatering	From Completion of Dewatering until 3 months later
PZ1	tbc	tbc	Monthly (with a minimum of three (3) monthly readings)	Weekly	Monthly
PZ2	tbc	tbc			
PZ3	tbc	tbc			
PZ4	tbc	tbc			
PZ5	tbc	tbc			
PZ6	tbc	tbc			
SW1	tbc	tbc	Monthly for 12 months	Weekly	Monthly
PZW1	tbc	tbc			
PZw2	tbc	tbc			

The monitoring frequency may be changed if approved by the Council. Any change shall be specified in the GSMCP. In addition, the three-month monitoring period post Completion of Dewatering may be extended by the Council, if measured groundwater levels are not consistent with inferred seasonal trends or predicted groundwater movement.

Advice Note: If groundwater level measurements show an inconsistent pattern immediately prior to the Commencement of Dewatering (for example varying more than +/-200mm during a month), then further readings may be required to ensure that an accurate groundwater level baseline is established before dewatering commences.

Ground Surface and Building Deformation Monitoring

163. Ground Surface Deformation Monitoring Stations (and Building Deformation Monitoring Stations, if required) shall be established and maintained at the approximate locations shown on the drawing entitled "*Proposed monitoring points*" prepared by Tonkin & Taylor Ltd, Figure No. A3, and appended to the s92 response dated 13 August 2019, or in the approved GSMCP. The Monitoring Stations will be monitored at the frequency set out in Schedule D. The purpose of the Monitoring Stations is to record any vertical or horizontal movement. Benchmark positions shall be established no less than 50m away from the excavated area.

Schedule D: Ground Surface and Building Monitoring			
Monitoring Station and type	**Frequency**		
	Pre-Commencement of Dewatering	**Commencement to Completion of Dewatering**	**Post- Completion of Dewatering**
Ground markers G1 to G18	Twice to a vertical accuracy of +/-2mm (achieved by precise levelling)	Weekly	Monthly for 6 months
Building markers *(if identified as required by the risk assessment in condition 155)*	Twice to a vertical accuracy of +/-2mm (achieved by precise levelling)	Weekly	Monthly for 6 months

The monitoring frequency may be changed, if approved by the Council.

Retaining Wall Monitoring

164. Five retaining wall deflection stations (RW1 to RW5), for the measurement of lateral wall movement shall be installed along the top of the southern Reservoir 1 retaining wall. Monitoring of the retaining wall deflection stations shall be undertaken and recorded in accordance with Schedule E below and shall be carried out using precise levelling.

Schedule E: Retaining Wall Monitoring		
Frequency		
Pre-Commencement of Dewatering	**Commencement of Dewatering to one month after Completion of Excavation**	**One month after Completion of Excavation to Completion of Dewatering**
Twice to a horizontal and vertical accuracy of +/-2mm	Once for every 2 metres depth (on average) of excavation, and, in any case, at a minimum of once weekly.	Fortnightly

The monitoring frequency may be changed, if approved by the Council, through the GSMCP.

Access to third party property

165. Where any monitoring, inspection or condition survey in this consent requires access to property/ies owned by a third party, and access is declined or subject to what the consent holder considers to be unreasonable terms, the Consent Holder shall provide a report to the Council prepared by a SQEP identifying an alternative monitoring programme. The report shall describe how the monitoring will provide sufficient early detection of deformation to enable measures to be implemented to prevent Damage to buildings, structures or Services. Written approval from the Council shall be obtained before an alternative monitoring option is implemented.

Contingency actions

166. If the consent holder becomes aware of any Damage to buildings, structures or Services potentially caused wholly, or in part, by the exercise of this consent, the Consent Holder shall:

(a) Notify the Council and the asset owner within two working days of the consent holder becoming aware of the Damage.

(b) Provide a report prepared by a SQEP (engaged by the Consent Holder at their cost) that describes the Damage; identifies the cause of the Damage; identifies methods to remedy and/or mitigate the Damage that has been caused; identifies the potential for further Damage to occur, and, describes actions that will be taken to avoid further Damage.

(c) Provide a copy of the report prepared under (b) above, to the Council and the asset owner within 10 working days of notification under (a) above.

Advice Note:

It is anticipated the Consent Holder will seek the permission of the damaged asset to access the property and asset to enable the inspection/investigation. It is understood that if access is denied the report will be of limited extent.

Building, Structure, and Services Surveys and Inspections

167. A copy of all pre-dewatering building, structure condition surveys, and Service condition surveys and photographic records of external visual inspections required by this consent shall be submitted to the Council with the GSMCP. All other condition surveys and photographic records required by this consent shall be provided to the Council upon request.

168. At two monthly intervals from commencement of dewatering until completion of dewatering, or as otherwise set out in the GSMCP, a report containing all monitoring data required by conditions of this consent shall be submitted to the Council. This report shall include a construction progress timeline, the monitoring data (including

the results of condition surveys) recorded in that period, and, a comparison of that data with previously recorded data and with the Alert and Alarm Levels for each Monitoring Station.

Upon Completion of dewatering, one electronic data file (excel workbook) containing digital data for all groundwater monitoring bores shall be provided to the Council. Data should include the monitoring bore name, type, location (NZTM easting / northing and elevation), screened depth for groundwater monitoring bores, absolute and relative readings (and their units of measure) and the date / time of each reading. The worksheets should contain data values only (no formulas, circular references or links to other sheets).

Requirement for Close-out Report

169. The final post-construction report shall constitute a close-out report and present a summary of overall trends observed on the project and confirmation that monitored readings post-construction (groundwater level, and / or ground and building movement) have reached steady state conditions (accounting for seasonal variation).

Notice of completion

170. The Council shall be advised in writing within 10 working days of when excavation and dewatering has been completed.

Permanent drainage

171. After Completion of Construction, any permanent backfill or drainage systems installed behind retaining walls or below base slabs shall not cause groundwater levels adjacent to the site to be reduced below pre-existing seasonal low levels, or, to rise above seasonal high levels (as measured during pre-construction monitoring) or in accordance with any subsequent monitoring.

Advice Note:

The Consent Holder is advised that the discharge of pumped groundwater to a stormwater system or waterbody will need to comply with any other regulations, bylaws or discharge rules that may apply.

Advice notes

General

1. *Any reference to number of days within this decision refers to working days as defined in s2 of the RMA.*
2. *For more information on the resource consent process with Auckland Council see the Council's website www.aucklandcouncil.govt.nz. General information on resource consents, including making an application to vary or cancel consent conditions can be found on the Ministry for the Environment's website: www.mfe.govt.nz.*
3. *If you disagree with the additional charges relating to the processing of the application, you have a right of objection pursuant to s357B of the RMA. Any objection must be made in writing to the Council within 15 working days of notification of the decision.*
4. *The consent holder is responsible for obtaining all other necessary consents, permits, and licences, including those under the Building Act 2004, the Wildlife Act 1953 and the Heritage New Zealand Pouhere Taonga Act 2014. This consent does not remove the need to comply with all other applicable Acts (including the Property Law Act 2007 and the Health and Safety in Employment Act 1992), regulations, relevant Bylaws, and rules of law. This consent does not constitute building consent approval.*
5. *The Consent Holder shall obtain a Corridor Access Request from Auckland Transport prior to the commencement of any works within the legal road.*
6. *Compliance with the consent conditions will be monitored by the Council in accordance with s35(d) of the RMA. This will typically include site visits to verify compliance (or non-compliance) and documentation (site notes and photographs) of the activity established under the consents. In order to recover actual and reasonable costs, inspections will be charged at the relevant hourly rate applicable at the time.*
7. *The Consent Holder is advised that the proposed works will be subject to an Outline Plan of Works process pursuant to s176A of the RMA.*
8. *The unwanted organism* P. agathidicida *has been confirmed to exist on site. The movement of soil, water or material containing the organism offsite is covered by the Biosecurity Act 1993. The consent holder is responsible for obtaining the necessary exemptions relevant to the Biosecurity Act (and other relevant consents and permits) prior to the works commencing on site.*

Philip Brown
Chairperson
(For and on behalf of independent hearing panel comprising Philip Brown, Juliane Chetham, Hugh Leersnyder, and Michael Parsonson)
30 June 2021

SCHEDULE 1 – SUMMARY OF EVIDENCE

The following is a summary of the evidence presented at the hearing, as required under s113 RMA. Given the volume of evidence that was received, the summary provides a brief outline of the witness's name, expertise, the nature of matters covered, and their conclusions. Copies of the evidence in full are available at the Council's website.

THE APPLICANT

Opening legal submissions were presented by **Bill Loutit** on behalf of the applicant. The submissions set the scene for the application, explained the proposal, and identified the key issues that arise. Mr Loutit emphasised the important public benefits of the proposal and stated that the application has been prepared with the utmost care and diligence, with every element having been carefully considered and analysed. He requested that consent be granted on the basis of conditions put forward by the applicant. Mr Loutit provided a final written submissions in reply.

Mark Bourne is the applicant's Head of Servicing and Consents, with responsibility for managing the applicant's infrastructure strategic planning, the development of its Asset Management Plan, and consenting process for all of the applicant's operations and projects. His evidence set out the project overview and provided an explanation of Auckland's water supply network. Mr Bourne explained the importance of the replacement Huia WTP project and the need for resilience in the region's public water supply infrastructure. Mr Bourne outlined the site selection process that has led to the current proposal in Waima.

Priyan Perara presented corporate evidence on behalf of the applicant. Mr Perera is the applicant's Head of Operations Excellence. His evidence addressed a number of design and operational matters, including an outline of the western water supply network, the history and current operations of the existing Huia WTP, and an explanation of the gravity principle for water distribution and supply. Mr Perera explained that the replacement WTP cannot be constructed on the existing WTP site because the existing plant operates as a single process train and all production would need to cease if one element of the process was disrupted.

Paul Jones is a Principal Planner for the applicant. Mr Jones had responsibility for managing the preparation and lodgement of the applicant's current application for regional resource consents and a land use consent to enable replacement of the existing Huia WTP. Mr Jones's evidence provided an outline of the engagement, consultation and communication activities undertaken with respect to the application, including establishment of the Community Liaison Group, engagement with Mana Whenua, immediate neighbours and other stakeholders. Mr Jones explained that engagement was ongoing with Mana Whenua and others.

Rachel de Lambert is a landscape architect. Ms de Lambert's evidence addressed her involvement in the design process for the replacement WTP site and reservoir sites, and her opinion as to the landscape and visual effects arising from the regional consenting components of the proposal (primarily the vegetation removal). Ms de Lambert's evidence

included visual simulations of the site, pre and post development, from selected public viewpoints. Her opinion was that, once established and operational, the WTP will sit well within the landscape and would generate very low adverse landscape and visual effects.

Jonathan Reed is a consultant civil engineer. His evidence addressed the requirements and design considerations for the water storage reservoirs proposed on the site, to serve the north-western water supply area. In particular, Mr Reed's evidence covered the volume of storage required within the North-Western Water Supply System in general and at the replacement Huia WTP in particular; the timing of the required storage, based on population growth projections for the North-Western Water Supply System; and the preferred location for the storage reservoirs. He confirmed that 50ML of storage was required on the site and that this was to be provided in two separate reservoirs for social, environmental and ecological reasons.

Daniel Williams is a consulting civil engineer with experience in construction. Mr Williams explained that his role in the project has been to provide input in terms of the potential construction methodologies, with particular reference to the vegetation clearance area required for construction, the indicative construction programme, and the construction traffic estimate and expected construction plant that will be required. Mr Williams explained that the vegetation clearance envelope has been minimised as far as practical, with the minimum working room allowed and limited laydown area provisions. He considers that the cleared area, while challenging in terms of construction access, will be sufficient to enable the plant to be constructed.

Joseph Phillips is a traffic and transportation engineer. His evidence addressed the traffic and transport effects of the vegetation removal and earthworks associated with the WTP and the two proposed reservoirs. Mr Phillips considered that the potential transportation effects of the proposal can be mitigated through the provision of, and adherence to, a CTMP. Mr Phillips' opinion is that the CTMP will satisfactorily manage the potential adverse effects of this works on site in order to provide for the safe and efficient operation of the local transport network.

Raveen Jaduram was the applicant's Chief Executive at the time of giving evidence. He presented a brief of corporate evidence that addressed the applicant's role and responsibilities, the statutory and strategic framework within which it operates, and its investment priorities. Mr Jaduram stated that legislation requires the applicant to keep the cost of water services to its customers at minimum levels, consistent with the effective conduct of its undertakings and the long-term integrity of its assets. He also advised that the replacement Huia WTP is identified in the applicant's Statement of Intent as a key water project, and is included in its Asset Management Plan 2018 to 2038 as a strategic priority in the north-west.

Richard Waiwai is the applicant's Poutiaki Tikanga Maori (Principal Advisor). His tribal affiliations are Ngāi Tūhoe, Ngāti Awa, Ngāti Pāhauwera, Ngāti Kahungunu and Ngāti Ruapani ki Waikaremoana. Mr Waiwai explained that his role in the project has been principally to provide assistance and advice in respect of the Mana Whenua consultation undertaken by Mr Jones. He stated that he has reviewed the CIA prepared by Te Kawerau

ā Maki and, in his opinion, it provides a balanced view point on Māori Views and identifies aspects of the project that will affect the cultural values, interests and associations that Te Kawerau ā Maki hold in relation to the site and the Waitākere Ranges. Mr Waiwai was of the opinion that any outstanding cultural matters are able to be addressed through ongoing engagement with Te Kawerau ā Maki.

Paul Walker is a ground contamination specialist. He provided evidence in relation to the potential for, and management of, ground contamination. In particular, Mr Walker's evidence covered the potential for ground contamination to be present on the site, the implications that it may have if present, further investigation that will be undertaken, and the controls and procedures required to manage ground contamination and avoid, remedy and mitigate its effects as development occurs on the site. Mr Walker's overall conclusion is that ground contamination (if present) can be managed through a Site Management Plan to ensure that the proposed earthworks will present a very low risk to human health and the environment.

Dr Sarah Flynn is a consultant ecologist. She provided evidence addressing terrestrial ecology on behalf of the applicant. Her evidence was provided at several different times through the hearing, covering a statement of evidence in chief, together with supplementary and rebuttal evidence. Dr Flynn explained that she had advised the applicant on the ecological values of the site, the effects of the vegetation clearance and earthworks on those values, and the measures that are proposed to minimise, mitigate, offset and compensate for adverse effects on terrestrial ecology. Dr Flynn stated that she had assessed the overall ecological value of the project site as being 'very high', but had mapped ecological constraints so that the replacement WTP is located to avoid areas of the site with the highest values.

Dr Flynn is of the opinion that the ecological effects of the proposed site clearance cannot be fully mitigated through on-site restoration and management. She recommended a compensation package to address residual effects (the WBMP). Dr Flynn considers that the ecological benefits of the WBMP are at least commensurate with the adverse effects on indigenous biodiversity arising from the permanent loss of 3.5 ha of indigenous vegetation.

In relation to the contentious issue of Kauri dieback disease, Dr Flynn considers that a risk management approach that identifies and controls potential vectors is a practical and effective means of controlling disease spread. She considers that the KDMP approach is the appropriate response in the context of an environment where testing has confirmed that the pathogen is already present.

Dr Helen Blackie is a biosecurity consultant with expertise in vertebrate pest management. Dr Blackie provided rebuttal evidence relating to the proposed Pest Management Strategy and the biodiversity outcomes of pest control, in response to evidence provided by Dr Mackay and Dr Martin for DoC. Dr Blackie explained the management targets for pest control proposed under the Pest Management Strategy. She considers that pest control proposed under the Strategy will meet, and likely exceed, the targets described as appropriate by Dr MacKay and Dr Martin. Dr Blackie is of the opinion that the pest control

targets and methodologies to be employed within the WBMP area will achieve significant biodiversity gain.

Kenneth Scarlett is a consultant arborist. He provided evidence on behalf of the applicant in relation to the vegetation removal proposed as part of the application. Mr Scarlett's evidence addressed the issues of Kauri dieback, the mechanics of vegetation removal, and protection measures required for retained trees on the perimeter of the WTP footprint. Mr Scarlett is of the opinion that appropriate protective measures can be put in place through conditions of consent to ensure the wellbeing of trees that will remain on site.

Dr Ian Boothroyd is a consultant ecologist. He provided evidence on the freshwater ecology matters associated with the proposal and, in particular, on the effects of the project on freshwater ecological values and the way in which such effects are to be managed. Dr Boothroyd explained that the project will result in the diversion of 53m of intermittent stream in the Yorke Stream catchment and that the resultant loss of ecological values are to be mitigated by the creation of a 70m long ecologically functional diversion channel with riparian planting, daylighting of approximately 45m of piped sections of the Armstrong Stream and provision of fish passage, and erosion control in the stream. In Dr Boothroyd's opinion, these mitigation measures will ensure 'no net loss' of freshwater ecological values, and provide an overall ecological gain for freshwater values.

Campbell McGregor is a consulting civil engineer. His evidence addressed issues relating to erosion and sediment control, and stormwater design and discharge. Mr McGregor considers that the sediment control devices proposed are appropriate for the intended earthworks operations and meet current best practice guidelines for works within the Auckland Region. He noted that the proposal seeks to manage stormwater flows to predevelopment levels and treat paved areas through appropriately sized devices to ensure contaminants are removed as far as practicable from surface run off prior to discharge to streams. Mr McGregor is of the opinion that any potential adverse effects resulting from the earthworks operations and stormwater runoff from the development, during and post construction, can be mitigated to current best practices and industry standards through consent conditions.

In his rebuttal evidence, responding to questions about collection and disposal of washdown water, Mr McGregor stated that such water could be readily contained and disposed of off-site.

Kevin Hind is a consultant engineering geologist, working principally within the areas of natural hazards, risk and geotechnical engineering. Mr Hind provided evidence in relation to groundwater drawdown and surface settlement, and land stability. Mr Hind considers that some groundwater drawdown will occur in relation to the Reservoir 1 site, but that resulting land settlement will not affect any privately owned land. He also considers that the proposed excavations and removal of vegetation will not induce slope instability.

Mathew Cottle is an acoustic consultant, specialising in environmental / industrial noise control and assessment. Mr Cottle was engaged by the applicant to advise on construction noise and vibration matters. He considers that construction noise and vibration can be

appropriately managed through a Construction Noise and Vibration Management Plan required by conditions of consent. With regard to the noise from heavy vehicles operating on the road network, Mr Cottle is of the opinion that the noise effects from truck movements will be minimal due to the low number of trucks in the context of existing traffic volumes and vehicle compositions on the relevant roads.

David Fougere is a director of a research company that undertakes market and social research. He is experienced in directing projects and programmes of research, and consulting on the design of research programmes and the application of research findings. Mr Fougere conducted a survey for the applicant that assessed the willingness of residents in Waima, Woodlands Park and Laingholm to allow access to their property for a dedicated organisation to help manage environmental and ecological challenges. Mr Fougere's evidence addressed the methodology and results of the survey, which showed that 73% of residents would be willing to allow access when given a short description of this possible organisation, rising to 82% allowing access once a slightly more detailed explanation was provided. It is Mr Fougere's opinion that the survey results provide robust assurance that the participation targets of the WBMP will be obtained.

Amelia Linzey is a consultant planner who specialises in social impact assessment. Ms Linzey was involved in assessing social impacts for the applicant's four short-listed site options (being the existing WTP site, the current replacement WTP site, and two sites in Parker Road, Oratia). In that exercise, Ms Linzey identified a number of potential adverse social impacts associated with the current proposal. However, Ms Linzey's evidence confirmed her opinion that those potential adverse social impacts have been appropriately addressed through project design (including landscaping and screening requirements) or will be appropriately mitigated by the management conditions put forward by the applicant. Ms Linzey considers that the repurposing of the Nihotupu Filter Station and intersection improvements at the intersection of Woodlands Park Road / Scenic Drive are potential social benefits.

Ms Linzey also provided a supplementary statement of evidence responding to claims from some of the submitters that the consultation and interview methodologies utilised for the social impact assessment were deficient. Ms Linzey considers that the information collected was of adequate scale and detail to inform her of the potential social impacts of the options.

Jessica Urquhart is a consultant planner. She provided planning evidence containing an assessment of effects on the environment in terms of s104(1)(a) and (ab) of the RMA, including consideration of environmental management, mitigation and compensation measures, and the proposed conditions of consent. In her opinion, the applicant's process for considering alternative siting options within the site avoided a number of potential adverse effects including removal of mature kauri, works in the Armstrong Stream and disturbance of areas with the highest ecological integrity. She acknowledged that the vegetation clearance proposed will give rise to effects on terrestrial ecology that are more than minor, but considered that adverse environmental effects have been avoided, remedied, mitigated or compensated to the greatest degree that is practicable. Ms Urquhart considers that the project will result in positive effects through the provision of a resilient, high quality water supply to service the north-west of Auckland.

Ms Urquhart presented supplementary evidence addressing the CIA (which was received after her evidence in chief was prepared. She considered that the broad range of mitigation and management measures proposed as part of the application are generally consistent with the proposed mitigation measures and recommendations set out in the CIA. Ms Urquhart acknowledged that there will invariably still be effects on cultural values, but considered that implementation of mitigation measures through the suite of environmental management plans addressed any such effects to the greatest extent possible.

Karen Baverstock is a planning consultant. Ms Baverstock addressed the application against the statutory planning instruments in her evidence, and set out the assessment process for the consideration of alternative sites that was undertaken by the applicant. She considered that the applicant's alternative locations assessment was comprehensive and robust, and more than met the requirement of Schedule 4 RMA to 'describe' alternatives. Ms Baverstock is of the opinion that the proposal will create adverse effects on the environment are more than minor and therefore cannot meet the first gateway test of Section 104D. However, her evidence was that the second test is passed because the proposal is not contrary to the 'regional' objectives and policies of the AUP, largely because of the recognition that the AUP gives to the importance of infrastructure. Ms Baverstock considers that consent should be granted, subject to conditions consistent with those that she attached to her brief of evidence.

Gregory Finlayson is a consultant engineer with specialisation in drinking water treatment. Mr Finlayson's evidence addressed the site layout for the WTP in the context of attempting to achieve the minimum practicable footprint for the plant together with allowance for construction laydown. Mr Finlayson explained the process undertaken to determine the basis of design and, from that, the footprint required to achieve the water treatment outcomes of the project. It is Mr Finlayson's opinion that the site layout represents generally the minimum practicable footprint for the proposed WTP whilst best meeting the design basis identified by the applicant and its desire to minimise the environmental impacts of the project.

Dr David Seldon provided rebuttal evidence relating to terrestrial entomology, responding to the presence on the site of insects identified in the evidence of Dr Peter Maddison on behalf of the Titirangi Protection Group. Dr Seldon considers that none of the insects identified by Dr Maddison elevates the conservation significance of the site, and the native invertebrate taxa found at the replacement WTP site occur throughout the Waitākere Ranges.

Lee Hill is a consultant working on biosecurity research, surveillance and management, with expertise in relation to Kauri dieback testing. Mr Hill provided evidence relating to the Kauri dieback sampling, testing, methodology and results, following the field testing undertaken on the site. Mr Hill advised that a field survey confirmed the presence of kauri dieback symptoms within the project site, and the surrounding buffer within Clarks Bush. He stated that the analysis of soil and water samples detected the presence of Pa and Pc in soil taken from the site, and adjoining 100m buffer area within Clarks Bush, and in water

taken from the Waituna stream tributary network within the project site, and adjoining buffer area within Clarks Bush.

THE SUBMITTERS

Department of Conservation

Legal Submissions were provided for DoC by **Michelle Hooper**. Ms Hooper stated that DoC acknowledges that the proposed new water treatment plant is critical water supply infrastructure that will have important public benefits, but has concerns regarding the significant residual effects of the proposal. She stated that DoC is not persuaded that adequate measures can be put in place to manage the risk of the spread of kauri dieback disease. Ms Hooper submitted that the compensation package that has been offered by the applicant to address residual effects is inadequate and the proposed trust structure for the delivery of the WBMP is inappropriate.

Dr Timothy Martin is a consultant ecologist. He provided evidence on behalf of DoC in relation to the ecological effects of the proposed vegetation and habitat clearance, the proposed measures to avoid, remedy, mitigate, offset or compensate for adverse ecological effects, and the likely outcomes of these measures. Dr Martin considers that the WBMP has several key failings, and it is unlikely that the compensation package will address permanent forest loss based on the length of time for which it is proposed to occur. Dr Martin is of the opinion that the proposed compensation package is not commensurate with the scale and types of ecological values associated with the vegetation and habitats to be permanently removed. Dr Martin was critical of the lack of data for pest plants and forest condition at the compensation site, and assessed this to be a critical information deficiency.

David Havell is a Technical Advisor (Threats) with DoC. His evidence addressed the issue of Kauri dieback. Mr Havell described the impact of the disease and explained how Pa is spread. His evidence addressed the protocols that exist for managing the spread of the disease and accepted that these were the basis for the approach to be used on the site, but considered that a significant risk still exists. Mr Havell considers that the controls and protocols should be applied to development of the site, although he stated that the risk of pathogen spread cannot be reduced to zero risk, given that pathogens are microscopic and can be easily be transferred in small amounts of water, soil and plant material. In Mr Havell's opinion, the position of the site at the top of a catchment poses potentially severe consequences to vegetation in below the site should phytophthora species spread more extensively through the downward movement of infected material.

Dr Jamie McKay is a consulting ecologist. He has expertise in bat ecology and his evidence addressed the impact of the proposed WTP on long-tailed bats and the pest mammal control methods proposed through the WBMP. Dr McKay considers it unlikely that any long-tailed bats will be injured or killed during vegetation clearance. He also considered that the WBMP is unlikely to reduce pest mammal densities to numbers where biodiversity benefits can be observed across at least 60% of the proposed Waima Biodiversity Management Area and

that the WBMP does not provide appropriate compensation for significant residual adverse effects of vegetation clearance.

Jacqueline Wairepo is a consultant ecologist. Her evidence addressed the impact of the WTP works on indigenous herpetofauna (lizards and frogs) and kauri snails. Ms Wairepo considered that the impact of the project upon resident herpetofauna is likely to have been under-estimated. She accepted that the impact to resident herpetofauna and kauri snails may be adequately mitigated by the methods and actions being proposed within the applicant's Ecological Management Plan. However, Ms Wairepo does not consider that resident lizards within the wider Waima area will derive any meaningful benefit from the WBMP compensation package, and therefore is of the opinion that the residual effects upon resident herpetofauna have not been sufficiently addressed or offset.

Angus Gray is a planner with DoC. He provided planning evidence in relation to the application. Mr Gray considers that the applicant has not attempted to offset the adverse residual effects of the proposal, as is required by the AUP. He is of the opinion that the compensation package will not provide a measurable outcome for biodiversity and cannot demonstrate no net loss. Mr Gray also considers that the proposal is contrary to a number of objectives and policies in the relevant planning documents, particularly those which require the management of effects on biodiversity, and the restoration and protection of biodiversity particularly in the Waitakere Ranges. He recommends that the resource consent application is declined.

Royal Forest and Bird Protection Society

Legal submissions were made by **William Jennings** on behalf of RFBPS. The thrust of his submissions was that the compensation package is not enabled by the AUP provisions, does not meet the requirements of Appendix 8, and has been incorrectly conflated with offsetting by the applicant. He also submitted that the proposed conditions were insufficient to manage the effects of the proposal.

Nick Beveridge is RFBPS's Regional Manager. His oral evidence expressed concerns about the effectiveness of the conditions, although did note that the revised conditions have addressed some concerns. He noted the reliance on management plans to address effects and considered that RFBPS should have some input into the ecology-related plans if consent is to be granted.

Evidence on behalf of combined submitter group comprising Save Our Kauri Trust, Titirangi Protection Group, The Royal Forest & Bird Protection Society of New Zealand, Waitakere Ranges Protection Society, The Tree Council, and Titirangi Residents and Ratepayers Association Inc.

Jack Craw is a consultant in biosecurity management, with experience in relation to Kauri dieback. Mr Craw considers that soil and plant matter infected with Pa would need to be deep buried on site, and site drainage only to the sea be permitted. In the absence of that outcome, Mr Craw is of the opinion that the application should be declined. Mr Craw considers that the proposed KDMP is inadequate. He noted that silt fences offer no

protection against kauri dieback spores in water runoff and considered that transport of contaminated soil and material offsite, no matter how meticulous, would very likely not prevent contamination between source and destination.

Dr Nari Williams is a plant pathologist with expertise in Pa. She presented a written statement of evidence for the combined submitter group, addressing risks associated with the spread of Kauri dieback. Dr Williams considers that the proposal presents a significant risk for the spread of the pathogen across the site and to the catchment below. She stated that, while Pa may be already present in the broader catchment, extensive excavations and changed patterns of water movement present a key risk for increasing surface inoculum flow and discharge to the lower catchment. In Dr Williams' opinion, it is not possible to delineate risk based on soil depth because the pathogen may be present in soil at greater depths than anticipated as it is likely to be associated with coarse roots.

The combined submitter group also tabled evidence from **Dr Monica Gerth**, who is a molecular microbiologist with expertise in Pa. Dr Gerth's evidence was that there is no data or evidence to suggest that Kānuka bundles can be used to mitigate the spread or movement of Kauri dieback.

Brett Stansfield is a consultant ecologist, specialising in freshwater ecology. Mr Stansfield gave evidence for the combined submitter group. He considers that there is a high risk that the microscopic Kauri dieback pathogen will be transported from the site to the downstream environment, either directly from the overland flow paths or via the sediment detention outflows of the development area during rainfall. In Mr Stansfield's opinion, the proximity of streams to the root zone of Kauri trees means that there is a risk that Pa could infect roots of what are currently healthy trees downstream of the site.

Evidence on behalf of combined submitter group comprising The Royal Forest & Bird Protection Society of New Zealand, Waitakere Ranges Protection Society, The Tree Council, and Titirangi Residents and Ratepayers Association Inc.

Shona Myers is a consultant ecologist. She presented evidence on behalf of the submitter group noted above. Her evidence addressed ecological values and the context of the site, the ecological effects, and the proposed mitigation and compensation package. Ms Myers considers that the site contains significant ecological values, and that the of removal of forest will create adverse ecological effects at the site and in terms of connectivity across the Ranges to the west and south. In Ms Myers' opinion, the compensation proposal is not commensurate with the level of effects, and should be of a broader scale and longer term to ensure no net loss and a net gain in ecological values.

Dr Nicholas Waipara is a botanist and microbiologist, with expertise in Kauri dieback. Dr Waipara presented evidence on behalf of this submitter group. He highlighted the current progression of Kauri dieback disease, its implications, and the technical constraints and lack of reliable hygiene tools that currently impede the operational management of kauri dieback. In Dr Waipara's opinion, the proposal presents an immediate and dangerous biosecurity risk that will be detrimental to the long-term viability and survival of the Kauri ecosystem in this location, and will lead to the infection and death of two of the oldest kauri trees in the

Auckland region. Dr Waipara considers that the level of Kauri dieback risk is such that the application should be refused.

Dr Waipara also provided a statement of rebuttal evidence for the Titirangi Protection Group, in which he stated that an understanding of the Kauri dieback pathogen lifecycle is important to appreciate how Pa responds in the environment, and reiterated that he considers the proposed hygiene protocols to be inadequate for the level of soil disturbance and activity proposed. In addition, he tabled a brief written statement of evidence from **Dr Peter de Lange**, a taxonomist. Dr de Lange is Chair of the New Zealand Indigenous Threat Listing Panel. He confirmed that the current threat listing of Kauri is 'Threatened - Nationally Vulnerable'.

Titirangi Residents & Ratepayers Association

Dr Mels Barton is the Chair of the TRRA. Dr Barton's evidence was that the applicant has underestimated the effects and the value of the losses that will occur, that the proposal will result in Kauri dieback spreading from the site, and that the proposed compensation package is inadequate. With regard to the effects of the proposal, Dr Barton considers that these include both ecological and social effects. She has particular concerns regarding the risk of Kauri dieback spread and considers that it is impossible not to spread Kauri dieback while undertaking the proposed works on the site. Dr Barton is of the opinion that the proposed Trust needs to have far greater scope, scale and resourcing than that proposed by the applicant if it is to achieve any of the outcomes sought, and that it should be funded in perpetuity.

Manuka Road Residents Society

Legal submissions for the Society were made by **Gill Chappell**. Ms Chappell advised that the Society comprises residents located immediately to the south of the site. Ms Chappell's submissions covered the background to the understanding of some Society members that the site was a regional park, the WRHAA, assessment of alternative sites, and a statutory assessment under the provisions of the RMA. Ms Chappell submitted that a cautious approach should be applied to consideration of the application, and that the merits of the proposal should be considered through the lens of s8 of the WRHAA and taking into account that there are alternative sites available for the WTP. She noted that the residents seek that the application be declined.

Dr Oleg Medvedev resides at 16 Manuka Road. Dr Medvedev's written brief of evidence was supplemented by a detailed PowerPoint presentation. His evidence outlined the concerns that he has with the proposal, primarily focused on loss of ecological values and social impacts on the way of life of existing residents.

David and Jolie Hutchings live at 18 Manuka Road. Mr Hutchings presented a written statement of evidence. Mr Hutchings outlined a number of concerns including those relating to the classification of the land, the level of consultation, loss of property values, and the applicant's site selection process. Mr Hutchings accepted that the project will have benefits for some, but that the burden of adverse effects will fall on near neighbours.

Kevin Neuman resides at 14 Manuka Road. He provided a written brief of evidence but did not appear at the hearing as he was overseas at the time. Mr Neuman raised similar matters to the other members of the Society with a focus on Kauri dieback concerns, land stability matters, and community impacts. Like others in the Society, Mr Neuman felt that the near neighbours would bear the weight of adverse effects.

Winnie Ye lives at 20 Manuka Road. Her written evidence expressed concerns about the size and scale of the development proposed for the site, and addressed matters related to Kauri dieback, ecology, traffic, and construction effects.

Cyril Hamiaux & **Pia Rheinlander** reside at 13 Manuka Road. They provided a combined statement of written evidence outlining the impacts that the proposal will have on them. Many of the matters raised were the same as those discussed by their neighbours, but they also consider that the long construction timeframe will place them in economic limbo for that period. In addition to that issue, Mr Hamiaux and Ms Rheinlander were concerned with potential loss of property value and the permanent effects of the proposal on the neighbourhood.

Tamara George lives at 12 Manuka Road. Her written evidence addressed a number of issues including concerns relating to the designation of the site, the lack of consultation, loss of property values, noise generation, chlorine safety, and alternative sites. Ms George considers that the proposal will have a significant and adverse impact on the local community.

Titirangi Protection Group

Simon Kitson presented evidence on behalf of the Titirangi Protection Group. His evidence was detailed and comprehensive and was largely concerned with the site selection process adopted by the applicant. He provided a PowerPoint presentation in addition to his written brief. Mr Kitson considered that the process of site selection was flawed and subject to political interference, based on information that he had obtained under LGOIMA. In his opinion, the deficiencies in the process should be an important consideration for determining the resource consent application because there is an obligation to ensure that adverse effects that will arise on the site are avoided if that is possible. Mr Kitson considers that the integrity of the RMA process will be undermined if these process flaws are ignored.

Douglas Cowan is a solicitor. His evidence for the TPG explained the process in the High Court related to the status of the designation. Mr Cowan stated that the relevant statutory documents contained no indication that the Manuka Road land was owned by Watercare and designated for a purpose that would enable a WTP to be established on the land.

Megan Fitter presented evidence for the TPG. Her evidence addressed issues relating to the proposed Trust and the compensation package. Ms Fitter considers that the applicant's proposed compensation package is inadequate, due to Trust governance structures, the non-permanent nature of the compensation, and the mis-alignment with existing initiatives.

She considers that the proposed compensation arrangements will have a significant risk of failure.

Ms Fitter also read statements of evidence on behalf of herself and her family, and on behalf of the Little Muddy Creeks Estuary Rehabilitation Project. The first brief of evidence raised issues with regard to flooding close to her property adjacent to the Waituna Stream and Ms Fitter expressed her concern that the replacement WTP may exacerbate existing flooding. The LMCERP evidence set out concerns that erosion, sedimentation and flooding downstream of the WTP may create adverse effects on stream health and native fish.

Katy Atkin presented evidence relating to social impacts on behalf of the TPG. She had a PowerPoint presentation in addition to her written brief. Ms Atkin was critical of the applicant's social impact assessment and considered that the level of engagement in Titirangi did not match the efforts of the applicant in relation to the Parker Road site options. Ms Atkin also considered that the proposal would create traffic safety impacts on Titirangi roads. Her view was that Titirangi is a different place now, compared to when the designation was confirmed, and the proposal is no longer appropriate in this location.

Tina Samuelu read a brief statement of evidence relating to insects found on the site, on behalf of the TPG. She tabled evidence from **Dr Peter Maddison**, an entomologist, where he stated that he considers the insects observed on the site to be rare or unusual. Ms Samuelu also provided evidence on her own behalf, focusing on concerns relating to vegetation removal and impacts on Long-tailed bats.

A short brief of evidence was also tabled from **Dr Amanda Black**, a specialist in soil chemistry and biogeochemistry. Dr Black considers that run off containing even small quantities of soil infected with Pa would go on to infect other areas, in the worst-case scenario contaminating previously healthy regenerating and established Kauri forest in the surrounding areas. Dr Black also considers that machinery used in the movement of soil would have to be decontaminated thoroughly to prevent the machinery transporting any potentially infected soil to other parts of Kauri growing areas.

Matthew Davis is an engineer with expertise in sediment control and stormwater matters. He presented a brief statement of evidence on behalf of the TPG addressing Kauri dieback in the context of sediment control. His evidence highlighted expected performance of sediment control devices and the associated residual risk when considering the ability to capture the Kauri dieback pathogen at the site via sediment and stormwater control measures.

Waitakere Ranges Protection Society

Brief oral legal submissions were provided for the WRPS by **Douglas Allan**. Mr Allan submitted that Kauri dieback provides important context for the consideration of the application. With regard to the Trust and the applicant's proposed compensation package, Mr Allan submitted that it was important for the Trust to be independent and run by the community.

Robin Taylor provided a statement of evidence on behalf of the WRPS. He acknowledged that the site is subject to a long-standing designation and that the proposal will largely be consented via the outline plan of works mechanism. However, Mr Taylor noted that WRPS is concerned by the potential for the proposal to have significant adverse effects on extensive areas of high quality and ecologically valuable native bush, birdlife and other flora and fauna. In the event that consent is to be granted, Mr Taylor requested that appropriate conditions be imposed to manage Kauri dieback risk and implement the WBMP, although with increased funding and duration.

Individual and small group submitters

Belynda Groot is a resident of Waima. She provided a written brief of evidence, setting out her concerns with regard to vegetation removal, social impacts, earthworks and other matters. Ms Groot spoke of the stress and anxiety the project has caused, for herself and the local community. Her evidence questioned the process that the applicant had adopted to identify the site as a suitable option, and she felt that the proposal was out of step with current thinking on issues such as climate change. Ms Groot played a short video from her child, Arie Hinton, to convey their thinking on the proposal.

Ms Groot also provided a brief of evidence for the Titirangi Protection Group. The evidence from the other witnesses for that group is summarised below.

Sean Freeman is the Chair of the Tree Council. His evidence was that the regional significance of the site in ecological terms has not been recognised and the scale of the ecological effects is underestimated. He considers that the proposal does not provide meaningful and effective management of the risk posed by Kauri dieback and is of the opinion that the applicant's compensation package is inadequate both in terms of scale and duration.

Steven Westwood presented evidence for Waima and Woodlands Park Residents and Ratepayers Association. Mr Westwood is concerned that the proposal will transform the forest to an industrial site. He also expressed concerns regarding Kauri dieback spread and safety reduction on local roads due to an increase in construction traffic.

Winnie Charlesworth provided evidence on behalf of Save Our Kauri Trust. Her evidence was focused on the threat to Kauri trees and the forest generally through the potential spread of Kauri dieback disease. Ms Charlesworth pointed our inconsistencies between the approach to close tracks in and around the site while still contemplating substantial vegetation clearance and earthworks. She was concerned for the large Kauri trees located downstream of the site. Ms Charlesworth showed a series of images and photographs of the site and surrounds, illustrating the track closures and scale of the Kauri trees in Clarks Bush and beyond.

A brief of written evidence from **Dr Cate Macinnis-Ng** was tabled by Ms Charlesworth as Dr Macinnis-Ng was unable to attend the hearing (so we could not ask questions regarding her evidence). Dr Macinnis-Ng is a plant eco-physiologist and eco-hydrologist with expertise in the physiology of Kauri. Dr Macinnis-Ng's evidence was that established forest

ecosystems provide a range of ecosystem services, and Kauri forests are of particular value as they are amongst the most carbon dense forests in the world. Dr Macinnis-Ng is of the opinion that any proposed biodiversity offset will not be a meaningful replacement in a changing climate. Dr Macinnis-Ng also considers that Pa is likely to be present in deeper soil layers, below the 50cm of topsoil, because of the deep rooting depth of kauri.

Sandra Coney presented evidence in relation to the heritage values of the Nihotupu Filter Station and its importance to the local area and the history of water supply activities in this location. She noted that the building had not been used since 1992. Ms Coney supported the applicant's proposal to restore and repurpose the Filter Station building.

Wendy Gray read a statement of evidence, talked to a PowerPoint presentation, and answered questions. She described herself as a tree advocate. Ms Gray recommended that the application be declined on the basis that it fails to implement Auckland Council's own strategies and policies, the applicant's Climate Change Strategy, and is contrary to a number of objectives and policies in the relevant planning documents.

Max Tongue is a resident of Tawini Road, in Titirangi. He opposes the application and read a brief statement of evidence at the hearing. Mr Tongue is concerned about issues of construction traffic, and loss of ecological values. He considers that the WTP should be located on a site closer to where the demand for the water is, and noted that there are many flat places in the world that use pumping for water distribution.

Keith Berman, **Natasha Carter** and **Mark Carter** presented evidence as a group. Mr and Mrs Carter reside in Boylan Road, Titirangi, and Mr Berman is a retired barrister. Their evidence highlighted issues relating to construction traffic, the management plan approach of the proposed conditions, the ecological effects and the relevance of the WRHAA. They considered that the application should be refused.

Justine Cormack presented spoke to a PowerPoint presentation. She considers that the proposal contradicts Government and Council policy, does not recognise the SEA and other site constraints, would have adverse social impacts, construction traffic effects, and may cause spread of Kauri dieback disease. Ms Cormack considers that consent should be refused.

Claudia Turner is a long-term resident of Tainui Road in Titirangi. Ms Turner has lived for 60 years in the vicinity of the site. Her evidence expressed concerns about the impact of the proposal on the ecological values of the site and on the social issues for the community. Ms Turner considers that consent should be refused and the WTP be established on another site that does not have native flora and fauna.

Lisa Prager presented oral evidence in opposition to the application. Ms Prager indicated that she formerly resided in Tainui Road and appreciated the natural environment in this location. She considered that consent should be refused to the applicant's proposal.

Robert Richards spoke on behalf of the South Titirangi Ratepayers and Residents Association. He stated that the Association opposes in part the applicant's proposal. Mr

Richards advised that the Association requests, in the event that consent is to be granted, a compensation package that is better funded and exists in perpetuity.

Dr Simon Mowatt is the Chair of the Waituna Action Group. He presented evidence by speaking to a PowerPoint presentation. Dr Mowatt was concerned about the loss of ecological values and the endangerment of local Kauri trees due to risk of Pa spread. Dr Mowatt advised that WAG had not been consulted with or invited to join the CLG, despite the work that it undertakes in the catchment.

Brent Courtney presented evidence as a as a third-generation resident of the area. His written evidence was accompanied by a detailed PowerPoint presentation. Mr Courtney's concerns were primarily focused on the ecological and natural values of the site that would be lost, and his opinion that the site forms part of a wider connected ecosystem. He also considers that the project would give rise to traffic safety concerns on local roads. Mr Courtney considers that the project should not proceed on the site.

Kit Holt is a local resident and had lived in the area for 23 years. He provided a written brief of evidence and spoke to his concerns relating to applicant's site selection process, the loss of forest, community safety, Kauri dieback and other matters. Mr Holt considers the vegetation removal and works on the site are inconsistent with Council policy and will have lasting adverse impacts.

John La Roche is a retired engineer with a background in engineering design related to water treatment filter stations, and is interested in engineering heritage. Mr La Roche supports the proposal to establish the proposed WTP close to the existing plant and, in particular, considers that the Nihotupu Filter Station building is a very important relic of Auckland's water supply from the Waitakere Ranges. In his opinion, it must be retained for its heritage value.

Clifford Morris presented a written statement of evidence. He did not express strong concerns regarding the removal of vegetation but did state that the proposal would have a significant impact on the community that needed to be recognised.

Mary Mears presented oral evidence. Ms Mears considers that there should be a process of ongoing liaison with the community. She is concerned about the impacts on close neighbours and considers that the applicant's sludge disposal site should be considered for the location of the WTP.

Penny Sparks provided a brief of evidence addressing issues relating to the site location. Ms Sparks resides in Oratia and accepts that the WTP needs to go somewhere. She resented the process that pits community against community, but considers that the presence of the designation suggests that the WTP should be established on the Waima site. Ms Sparks considers that compensation should be payable to adjacent residents.

Greg Presland presented appeared at the hearing representing the Waitakere Ranges Local Board, together with **Saffron Thoms** and **Ken Turner**. Their evidence was that the Local Board opposes the application. They consider that the WRHAA is mostly focused on

protection of the environment and expressed concerns about the Kauri dieback issue. The applicant's sludge disposal site is the Local Board's preferred location for the WTP.

Edward Ashby gave evidence on behalf of Te Kawerau ā Maki, appearing in conjunction with the combined submitter group. Mr Ashby's evidence described the relationship Te Kawerau ā Maki has with the proposal area, the nature of the rāhui placed over Te Wao Nui a Tiriwa (Wāitakere Ranges), and the cultural impacts and risks associated with the proposal.

Mr Ashby outlined how in December 2017 Te Kawerau ā Maki called down a rahui over Te Wao Nui ā Tiriwa in response to kauri dieback spread, declining forest health and their obligations to maintain its mauri. He noted that the mana and wellbeing of the Iwi is linked to the health of the forest, hence the importance of protecting the integrity of the rāhui and the forest to allow time for it to heal.

Mr Ashby confirmed that the applicant had initiated consultation with Te Kawerau ā Maki in 2017 regards the proposal and that the Iwi accepted that the existing water treatment infrastructure required replacement, noting their obligation as mana whenua to provide manākitanga (i.e. provision of potable water to manuhiri within their rohe). However, Te Kawerau ā Maki had concerns about impacts on significant established and regenerating bush on the site, and the risk of Kauri dieback spread. These concerns were outlined in the 2017 Cultural Values Assessment (CVA), a preliminary baseline report setting out key values and concerns, and then detailed further in the Cultural Impact Assessment (CIA) of October 2019. Mr Ashby explained that the CIA outlines the relevant statutory and policy framework and identifies potential effects. The CIA identified five significant adverse effects related to water, soil disturbance, native vegetation, and the rāhui, and provided a series of mitigations and offsets. The CIA included recommendations relating to the retention of soil on site, effective stormwater design to prevent severe impacts on the receiving environment, and a rigorous testing regime for Kauri dieback disease. The report noted that implications of the project for the rāhui are considered significant and, as such, the proposed site was not preferred.

Mr Ashby discussed the proposed KDMP, specifically his concerns around the lack of provision for Te Kawerau ā Maki involvement and tikanga, a lack of clarity around the process for disposal of soil and other material from the site, and the ability of the proposed stormwater management to effectively avoid the spread of Pa downstream. Overall, Te Kawerau ā Maki oppose any adverse off-site impact to the catchment that could undermine the mauri of Te Wao Nui ā Tiriwa and the purpose of the rāhui. Concerns were particularly focused on the movement of contaminated and tapu soil and vegetation outside of the rāhui area, and ultimately outside of Te Wao Nui ā Tiriwa as a whole.

THE COUNCIL

The Council's reporting specialists provided detailed memos setting out their respective positions following hearing all the evidence, and addressing any issues with regard to conditions.

Mr Blakey advised that he had changed his position after having heard all the evidence, with his concerns mainly centred on the Kauri dieback risk and cultural effects. He recommended that the application be refused.

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