

**IN THE MATTER** of the Resource Management Act  
1991

**AND**

**IN THE MATTER OF** discharge and land use resource  
consents for the operation and  
maintenance of the Wairoa  
wastewater treatment plant and  
sewer pump station overflows

**BY** **Wairoa District Council**

**Applicant**

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**STATEMENT OF EVIDENCE OF HAMISH TIMOTHY LOWE ON BEHALF OF  
WAIROA DISTRICT COUNCIL**

16 November 2020

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## **INTRODUCTION**

1. My name is **Hamish Timothy Lowe**.
2. I am an Environmental Scientist at Lowe Environmental Impact Limited ("**LEI**").
3. My evidence is given in relation to the application for resource consents for the Wairoa Wastewater Treatment Plant ("**WWWTP**") by Wairoa District Council ("**WDC**").

## **QUALIFICATIONS AND EXPERIENCE**

4. I have the following qualifications and experience relevant to the evidence I shall give:
  - (a) Bachelor of Agricultural Science (Honours); and
  - (b) Master of Agricultural Science (Honours in Agricultural Engineering).
5. I am a member of a number of relevant associations including:
  - (a) Water New Zealand;
  - (b) New Zealand Land Treatment Collective;
  - (c) Soil Science Society of New Zealand;
  - (d) New Zealand Institute of Agricultural and Horticultural Sciences (NZIAHS);  
and
  - (e) Environmental Institute of Australia and New Zealand (EIANZ).
6. I have served two terms as an elected council member of the Soil Science Society of New Zealand. I have served on the Biowaste Material National Research Programme advisory board for more than 6 years. I am a past Chairman of the New Zealand Land Treatment Collective technical committee, an elected position I held for four years, and served on the technical committee for 10 years. Following this long-standing relationship with the New Zealand Land Treatment Collective, I now support the Collective by providing management services.
7. I am a Certified Environmental Practitioner, in accordance with the EIANZ accreditation programme. I am a certified Practicing Agriculturalist, in accordance with the NZIAHS accreditation programme. I am a Certified Nutrient Management Advisor in accordance with the CNMA programme. I am also a certified Hearing Commissioner (Chair) in accordance with the Ministry for the Environment's Making Good Decisions programme.
8. At a national level, I have been actively involved in participating in and facilitation of various industry debates about the appropriateness and management of agricultural, industrial and municipal wastewater systems, and the appropriateness of their application in a range of environments. This includes providing guidance to Regional and District Councils throughout the country and the Ministry for the

Environment. I have contributed to a number of waste management guidelines, regional plan processes and am a contributing author to IPENZ Practice note 21 (PN21): Farm Dairy Effluent Pond Design and Construction.

9. I have helped to design and deliver a nationally accredited (NZQA) onsite wastewater qualification and assist Massey University with delivering Farm Dairy Effluent training. I am a design accreditation panel member for both the DairyNZ Farm Dairy Effluent System Design Accreditation Programme and Irrigation Design Accreditation programme.
10. I have been involved in the investigation, design, consent preparation, consent review and consent decision making of in excess of 70 small community wastewater projects in the lower North Island alone<sup>1</sup> and more nationally. I have also worked extensively around the country on other community and industrial wastewater<sup>2</sup> projects.

## **CODE OF CONDUCT**

11. I confirm that I have read the 'Code of Conduct' for expert witnesses contained in the Environment Court Practice Note 2014. My evidence has been prepared in compliance with that Code. In particular, unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

## **BACKGROUND AND ROLE**

12. I have been involved with development of wastewater solutions for Wairoa since 2013 when I was asked to assist in developing a road map to look at future discharges of Wairoa's wastewater. Subsequent to that, I was asked to develop a consenting strategy and assist with the long term plan for managing the town's wastewater.
13. I have been responsible for organising the consent application and have been involved in preparing a number of the accompanying reports. The background reporting for the application reflected the evolution of:
  - (a) monitoring, whereby initial monitoring informed more recent monitoring;
  - (b) options analysis, where alternatives were considered; and
  - (c) engagement, where the current situation was identified, wastewater management and community needs were reviewed, and feedback informed critical aspects of the not only the proposed wastewater discharge to the river, but the wider management of wastewater.

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<sup>1</sup> Some of these include: Ashurst, Bulls, Carterton, Cheltenham, Dannevirke, Featherston, Foxton Beach, Greytown, Halcombe, Himatangi Beach, Levin, Mahia Beach, Masterton, Martinborough, National Park, Piopio, Ohakune, Opunake, Otaki, Riversdale Beach, Sanson, Shannon, Taihape, Taumarunui, Takapau, Te Kuiti, Waiouru, Whanganui, Woodville, Waipawa, Waipukurau, Waipatiki, Wairoa and Waitare Beach.

<sup>2</sup> Some of these include: SFF (Oringi, Takapau,), Fonterra (Hautapu, Lichfield, Edgecombe, Kapuni, Longburn, Pahiatua, Takaka, Darfield, Studholme), AFFCO (Awarua, Manawatu, Imlay), Carter Holt Harvey, Pan Pac.

14. The application reports are referenced by a sequential numbering with the author identified along with the phase of the work (as noted by the letter) and the report number (eg *LEI 2018:C1.0*).
15. As I have coordinated the collation of information and expertise for WDC at this hearing, my evidence covers not only my specific area of expertise (land treatment systems and community wastewater) but also provides a Project overview linking key technical and engagement activities that have occurred and are being reported on.
16. Attached to my evidence (**Annex A**) is a package of reports that are in common for a number of experts providing evidence for this hearing on behalf of WDC. This includes revisions to suggested consent conditions. The attachment is referred to as **Common Bundle of Attachments**.

### **SCOPE OF EVIDENCE**

17. My evidence addresses the following matters:

- (d) What does the Community Want;
- (e) Activities for Which Consent is Sought;
- (f) Overview;
- (g) Background Reporting;
- (h) The Journey;
- (i) Specific Issues; and
- (j) Conditions.

### **WHAT DOES THE COMMUNITY WANT?**

18. Arriving at this point with seeking a number of related consents to discharge wastewater to the Wairoa River has involved significant consultation. This consultation has provided a very clear message to WDC; **the community do not want wastewater in the Wairoa River**.
19. This message of no river discharge is concurred with and supported by WDC councillors.
20. The challenge then facing the wider Wairoa community is how to achieve what could be considered aspirational objective of no river discharge. Engagement with the community and research as part of the consenting programme has highlighted two obvious impediments to achieving this objective:
  - Wairoa has a limited ratepayer base, and if any changes are to be made the costs would have to be borne by the ratepayers; with a \$400 Increase

in rates per ratepayer likely to only service a \$10M loan over 30 years;  
and

- The alternative to the river discharge is land discharge; and the soils around Wairoa have limitations, being they are flat and seasonally wet, or hilly and seasonally wet.

21. Two other key considerations which help to set the pace of making any changes are:

- The Wairoa River is in a degraded state and the complete removal of the wastewater discharge will have limited impact on the overall health of the river; and
- WDC need to be wise about expenditure, ensuring that the limited ratepayer derived expenditure is used to produce tangible benefit for the wider community.

22. The challenge facing the community as a whole is if the aspiration objective is, to be reached, then how?

23. The consent application, and in particular the consent condition framework sets out a road map that provides for the repeated look at alternatives to the river discharge. This includes ensuring there is commitment to minimum performance of the existing discharge through targeted and improved wastewater treatment, ongoing monitoring, and further refinement and improvement in the sewer network. Most importantly the conditions provide for a regular review process that is inclusive of the community, with particular opportunity provided for Maori though participation in decision making and collecting monitoring information.

#### **ACTIVITIES FOR WHICH CONSENT IS SOUGHT**

24. The consents being sought as part of this process are set out in the Resource Consent “**Application**” (WDC, 2018:C0)<sup>3</sup>.

25. Specifically, consents sought are:

- Discharge to water (Wairoa River) from WWWTP outfall;
- Discharge to water (Wairoa River) for pump station overflows;
- Discharge to air (WWWTP);
- Occupation and disturbance of riverbed for periodic relocation of WWWTP outfall;
- Occupation and disturbance of riverbed for maintenance of pump station outfalls;

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<sup>3</sup> Wairoa District Council (2018) Wairoa Wastewater Treatment Plan Discharge Resource Consent Application and AEE

- Construction of a new structure within CHZ1 for the purposes of a network utility operation;
  - Disturbance associated with construction and maintenance;
  - Vegetation clearance and soil disturbance; and
  - The associated occupation of space.
26. No consent is sought for any discharge of wastewater to land. This is a separate process. The need to bundle resource consent is not considered necessary for two reasons:
- There are financial and contractual limitations with securing land, particularly with regard to the long term feasibility of land application;
  - The consents sought are for a standalone activity with effects on different environments (river and adjacent riverbanks) that can stand on their own and are not interrelated with other activities on land that are not subject to or intrinsically connected with this suite of consents.

## OVERVIEW

27. The current system and proposed changes are detailed in the Application and the vast array of supporting documents. A summary is provided below.
28. The WWWTTP is located near Rangihoua/ Piolet Hill, south of the urban area of Wairoa. Wastewater is reticulated through pump stations to the WWWTTP, where it is treated and currently discharged through an outfall pipe into Wairoa River overnight on outgoing tides. There are occasionally additional discharges at three of the pump stations with overflow to the river, typically during large storm events. The overflow discharges are primarily stormwater with some contamination from wastewater, and with recent improvements in reticulation and pump operation, as detailed in evidence of **Mr Stephen Heath**, their usage is expected to decline even further than is currently observed.
29. Monitoring to date suggests that there is no ecological or environmental effect from the current discharges from the WWWTTP. No public health impacts have been directly associated to the discharge. It is however noted that the current discharge is culturally objectionable (to the community).
30. Going forward, changes are proposed, which are largely in response to community aspirations, and in the absence of observable effects are largely to mitigate cultural effects. These changes include:
- Extend the pipeline, as the river's active channel has shifted;
  - Provide for filtration, which while in regard to degraded state of the river may be of limited purpose in terms of water quality, provides for filtration and purification that could have otherwise been provided by Papatuanuku;

- Provide for UV treatment to remove pathogens, which while noting the river upstream of the discharge commonly fails contact recreation limits and there is rapid dilution of the discharge, and will be more rapid dilution with the discharge flow regime proposed, ensures that the risk of public health impacts are further mitigated; and
- Development of a variable flow regime that is consonant of the characteristics of the receiving environment at the time of discharge; particularly ensuring potential localised effects are minimised by increasing wastewater discharge flows as river flows increase. This includes ultimately seeking to achieve no river discharge during low flow conditions.

**31.** There are other undertakings to look at to assist with achieving the community aspiration of reducing discharges to the Wairoa River. These include storage and irrigation of treated wastewater.

## **BACKGROUND REPORTING**

**32.** Work on developing a long term wastewater solution has been occurring for close on 8 years. There were two key foci, being collecting background information on wastewater characteristics and management and understanding what the community wants. The history of this early engagement and the resulting investigations is summarised in the Application and detailed in the plethora of supporting documents. Two key documents that assist with informing the extent of work undertaken are the Best Practical Option report<sup>4</sup> and the Consultation Summary (Appendix B of the AEE).

## **THE JOURNEY**

**33.** The journey to this point of consenting the wastewater discharge started prior to 2013. I was engaged to assist with a road map for Wairoa's wastewater. This process and the journey is documented in LEI (2017:A7I3)<sup>5</sup>.

**34.** The formulation and evolution of thinking of the formed Stakeholder Group was possibly my highlight of the journey. The range of participants and how thinking evolved in my mind had parallels with what would be expected from the community. While formed to address and consider management of the wastewater, it was very clear that there are a far bigger issues at play within the community. This includes the health of the community; being primarily the social health which is strongly influenced by what can be afforded. A second, and arguably equal aspect is the relationship with the Wairoa River. The river is critical to the community, and the

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<sup>4</sup> Low Environmental Impact (2018:B4). Wairoa Wastewater Treatment and Discharge Best Practical Option.

<sup>5</sup> Low Environmental Impact (2017:B2A2) Wairoa Wastewater Package – A Way Forward.

health of the river forms a large part of discussions within the community. This was reflected in the Stakeholder Group process, with significant time dedicated to discussing what could be done to support and assist with restoring the mauri of the river.

35. The reality that was discussed, and in my view accepted, was that the ceasing of the wastewater discharge to the lower reaches of the river would only go part way to improving the health of the river, with the complete removal not likely to result in an observable effect or improvement in river health.
36. The concluding focus of the discussion about the river was that while the river could be considered to be in a degraded state, all contributors to the river should do their bit; and this included WDC improving the management of its wastewater discharge. This led to a focus on developing a plan to remove as much of the discharge from the river as possible while doing it in a way that was practical and affordable to the community.
37. This bigger picture approach was referred to as the Package, of which the wastewater discharge to the river component was **a subset**; and it is this subset which form the application for wastewater discharge to the Wairoa River. The Package is described in LEI (2017:B2A2 Package Report)<sup>6</sup> and in Sections 2 and 3 of the Application.
38. Notwithstanding the Application being solely for the discharge to the river, to provide reassurance to the community that alternatives and ongoing refinement would be pursued as part of the Package, conditions were developed that effectively locks WDC in to constantly reviewing and seeking opportunities to meet the aspirational target of ceasing the discharge to the river.

## **SPECIFIC ISSUES**

39. Since lodging the Application there has been ongoing discussion with the community, largely as a result of submissions on the Application. There have also been discussions with Hawke's Bay Regional Council Staff, with some aspects of these discussions captured in their technical reports and their s42A report. Below is a series of discussions on specific matters that have been raised.

### **Reference to Maori**

40. The consenting journey has seen considerable engagement with Maori. The term Maori has been used in an encompassing way and based on guidance from a number of participants in the process, seen as preferable to using the term 'tangata whenua.'

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<sup>6</sup> Low Environmental Impact (2017:B2A2). Wairoa Wastewater Package- A Way Forward.



### **Initial engagement with Maori**

41. Engagement with Maori is in my view essential and required to address the necessary planning provisions of any resource consent application. Once the draft consenting strategy had been developed guidance was sought from the council's Maori Standing Committee as to how to manage Maori engagement, and in particular participation in the Stakeholder Group.
42. The s42A report (paragraph 20) implies understanding cultural values was a recent realisation. This is not the case.

### **Mortuary wastes**

43. Engagement in early Stakeholder meetings has highlighted the implications of mortuary wastes in the wastewater system. Consideration and work is underway to consider opportunities to have it removed. There are sensitivities surrounding this given there is only one funeral home in Wairoa and the need to manage local impacts of pandemics. A commitment to address management of mortuary wastes is given in consent conditions.

### **Cultural Health Monitoring**

44. An appreciation of the impact of the proposed discharge on cultural values is important. This requires engagement with and guidance from Maori.
45. During the Stakeholder Group process an offer, and engagement, was made to one of the group members to describe and undertake cultural health monitoring. A series of scenarios was suggested, and a request by WDC to consider potential monitoring outcomes under discharge regimes representing the historic discharge, current discharge and proposed discharge was made. To date this work has not been provided to WDC. It is hoped that this work will be made available at this hearing by the submitters engaged to do this work. On going cultural monitoring is proposed in the consent conditions.

### **Monitoring**

46. Historical compliance monitoring has been limited with the existing discharge, an issue with most older resource consents. Despite this, recent investigations have shown minimal effects, as discussed in evidence of Dr Mead.
47. Future monitoring going forward is proposed to be significantly more robust. This monitoring can be grouped into three categories:
  - 1) Effects based monitoring – being to monitor the effects of the current discharge using best practice techniques;
  - 2) Catchment contribution monitoring – being monitoring to look further afield in the wider environment of the discharge to assist with identifying other impacts in the wider environment which may impact on the interpretation of results with the effects based monitoring. This monitoring is also appropriate as a contribution by WDC to understanding the wider health of the river.

3) Cultural monitoring – being monitoring to understand the impact on cultural and customary values, including access to and impact on kaimoana and mahinga kai (fisheries).

48. The amount of monitoring is significantly more than that undertaken previously. This is to, amongst other things, align with best practice for discharges to estuarine environments. It is also comprehensive because the discharge structure is in a new location. Allowance is being made in the conditions for a review of monitoring requirements on a regular basis.
49. These monitoring provisions have been provided for in the consent conditions and are discussed further by Dr Mead and Mr Drury.

#### **Alternative to the River**

50. Alternative discharge options have been considered in LEI (2018:A7D1)<sup>7</sup>.
51. There are essentially two discharge environments: land or water. The alternative water environment to the river is the ocean. This has been discounted. Land options can consider two means of discharge: high rate and low rate. High rate uses free draining soils where the discharge passes to the underlying groundwater. Such soils do not exist in the proximity around Wairoa except along the beaches of the coastline. This leaves soils suited to low rate irrigation, and of these soils they predominantly all have seasonal wetness limitations. This means they cannot be irrigated year round, leading to the need for storage.

#### **Storage requirements**

52. All solutions to lessen wastewater discharges to the river require storage. At a minimum storage is required for managing flows when discharge is not possible because of bar closure. If land application is needed with no river discharge, then a storage area of some 10 ha is required; this is not practical or affordable.
53. The actual storage volume will be dependent on a number of factors, but primarily the ability to access land for irrigation. While some buffer storage can be accommodated at the WWTP, additional land is needed. This is logically suited to be placed close to the irrigation area(s) when they get developed. The size, and the need for a residual discharge to the river, will be dependent on the irrigation area, funds made available and any direction from this consenting process.

#### **Timing of land and storage**

54. The timing of land and storage opportunities is largely dependent on access to irrigation areas. This in turn has been limited by funding opportunities, particularly managing, or more accurately avoiding, unacceptable rate increases.
55. The Long-Term Plan process council is currently in provides an opportunity to reset capital expenditure. Further, recent funding from the Department of Internal Affairs

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<sup>7</sup> Lowe Environmental Impact (2017:A7D1). Discharge Options.

Three Water review has allocated funding to Wairoa, of which a portion has been made available for irrigation. This provides for a commitment to develop irrigation, which in turn allows a commitment to invest in storage.

56. WDC are committing to install 10,000 m<sup>3</sup> of storage at the existing treatment plant, which could be achieved within a three year period. Further, WDC have allocated \$380,000 of their 3 Water Review tranche one for irrigation development, which has to be spent within the next 18 months.
57. The s42A report at paragraph 77 acknowledges the preference to have nominated dates. However, it also acknowledges the complexity of this due to funding. Hopefully the commitment indicated above goes part way to addressing the issues raised- with the System Review and System Improvement processes still in the background.

### **Level of Treatment**

58. WDC has been reluctant to commit to major treatment plant upgrades. There are a number of reasons for this, including:
  - The current discharge is not contributing to adverse effects that can be mitigated by upgrading the wastewater treatment plant;
  - Any wastewater treatment plant upgrade, other than the filtration and UV treatment proposed, would consume money that would be better spent on developing storage and irrigation;
  - Irrigation would not require additional treatment, other than the proposed UV treatment;
  - Potentially treatment plant upgrade requirements may be influenced by the implementation of the national Policy Statement for Fresh Water Management (and any plan change produced by the HBRC); and
  - Central government is working on a possible National Environmental Standard for wastewater treatment, and this may influence the treatment requirements.
59. With funding available from the central Government Three Water reform programme council is committing to filtration and UV treatment. Planning is also underway to lock in money for additional storage. Also underway is a design review process, to be completed within the next 12 months, to optimise the current treatment process taking the above factors into account.

### **Impact of funding**

60. Many of the changes desired by the community are supported by WDC. However, they are limited by availability of funds. As noted elsewhere in this evidence, and the support information to the Application, there is limited rate derived funding available in the Wairoa district. Many changes will require external funding. This was acknowledged, and accepted, during the consultation process leading to the lodgement of the Application.

61. Subsequent to the lodgement of the application several funding opportunities have arisen. These include:
- Provincial Growth Fund – Covid-19 response. Central government developed a COVID response fund, managed through Crown Infrastructure. Earlier this year WDC submitted an application for significant works for shovel ready projects. Included in this was \$60 million for wastewater initiatives, including irrigation and storage development. This application was not successful.
  - Three Water Reform – the Department of Internal Affairs has provided a national package of \$761 million for three water projects. WDC were allocated \$11.04 million. This has been allocated to infrastructure projects across the district, with \$1 million to UV treatment and \$380,000 to irrigation development.
62. Making the most of external funding opportunities is vital to assist with delivering on the Package. This is much more than the Application for river discharges, and allows alternatives to be implemented over time.
63. The consent condition framework has been established in a way that acknowledges current financial limitations within the community. It also provides for the opportunity for constant reviews to implement changes to lessen the river discharge should funding become available. Conditions of consent require the consent holder to report on the sources of funding investigated to keep the need to source funding front of mind.

#### **Pipeline process**

64. The s42A report in places (including paragraph 17) discusses the changing nature of the pipeline location. This is discussed in the evidence of Mr Drury, but in summary the initial proposal of having a 'box' in which the discharge can be located has been refined. The initial proposal was to have the flexibility to shift or modify the discharge within the box subject to river conditions. It has now been refined with nominated pipe route identified. To manage the potential movement in the river channel flexibility is now sought in the consent conditions to allow the discharge structure (diffuser) to be located anywhere along that pipeline.

#### **CIA recommendation**

65. The s42A report makes reference (paragraph 74,87 and 152) and places emphasis on:

*“a commitment made to continued research into achieving 100 % drinkable water quality for wastewater discharge to waterways as an alternative option to 100 % land based wastewater discharge.”*

66. This comment is not the main message from the CIA (How, 2018:C8).
67. It is important to note that Mr How in section 6.5 of the CIA notes:

*The effects of this discharge regime on the river's cultural values and health acknowledge tangata whenua worldviews and positively begin to incorporate them into the daily operations of the WWWT. However, wastewater discharges to water bodies which are not 100% drinkable water remain.*

68. He also notes in section 7.2 - Cultural Matters Requiring Mitigation:

*If future technology reaches an affordable and applicable stage where wastewater can be efficiently converted to drinkable water quality, then this clean type of wastewater discharge to waterways will be acceptable to tangata whenua worldviews as a complete alternative to the ideal of 100% land discharge.*

69. The quoted text by the s42A author relates to *Additional Potential Mitigation Measures*, being future mitigation measures for WDC to consider supporting.

#### **CIA reflection of the aspirational approach of the proposal**

70. The s42A report at paragraph 75 (and elsewhere) questions whether the CIA accurately reflects the proposed regime with the river discharge. This issue was raised in question 10 of the s92 request. The s92 response was as follows:

*The CIA **does** reflect the aspirational nature of irrigation and storage expansion in Stage 4, and the assessment conclusion for Stage 4 includes "very significant increases in storage capacity and irrigation are projected which will have a corresponding positive effect on the river's cultural values" and **"The 21-30 year stage continues to greatly improve the operations of the WWWT in a manner which incorporates tangata whenua worldviews, but does not fulfil them completely by removing wastewater discharge to waterways completely nor delivering 100% drinkable quality water to the river."** In section 7.3 of the CIA Nigel observes: "During the 30-year implementation of The Package a significant amount of wastewater will be discharged to land, but waterways discharge will not be completely discontinued. The impact of the discharges will be less and thus more acceptable than the current situation, but remains culturally inappropriate to a lesser extent than the current situation." The CIA's conclusions repeat these views for Stage 4.*

*Nigel How has also provided the following response in relation to this request: "The Oxford definition of the word 'plan' includes:*

- A detailed proposal for doing or achieving something.*
- An intention or decision about what one is going to do.*

*By the above definition it is the proposed intention of WDC to implement the 30 year plan, which was my understanding when I wrote both reports. Whether or not the 30 year plan can be achieved with any percentage of certainty is an impossible question to answer. However, recent community activism requires delivery of the plan. The willingness of WDC to positively respond is a strong indicator that the 30 Year Plan will be implemented."*

71. The S92 requests and responses are included in the Common Bundle of Attachments.

## **Public Health Risk**

72. The s42A report at paragraph 104 discusses public health risk, particularly “as a result of the overflow discharge”. It is assumed that this is the pump station overflow discharges. That being the case it should be noted that these discharges occur almost solely during wet weather events and when the river is in flood. Therefore, the risks for public health events are negligible.

## **Report relevance**

73. In reference to the vast array of reports generated, the s42A report at paragraph 137 notes that “...unfortunately many are no longer relevant...”.
74. It should be noted that the consenting programme has been a journey, and that journey has seen reports developed as building blocks, and in some cases the work undertaken has resulted in different directions being pursued. Part of this process has been developing a vision and gauging support for that vision. In this case the vision has led to the Package, with the resource consents for the surface water discharge being a subset of that wider Package. In other words, the journey is not just about the consents, it is more that development of a community supported sustainable wastewater system, of which river discharges (and their consents) are a small part.

## **Review criteria**

75. The s42A report at paragraph 172 suggests number of review provisions. While I fully support the need for review provisions, I disagree and do not think they are appropriate as suggested.
76. Firstly, (referring to the first bullet point and (f) under Condition 55) unlike potable water, there are no national environmental performance measures for wastewater discharges.
77. Secondly, (referring to the second bullet point and (g) under Condition 55) again, unlike potable water, there is no “national good practice guidelines for the design and management of wastewater networks”.
78. And thirdly, (referring to the thirdly bullet point and (h) of Condition 55) the monitoring of emerging contaminants as suggested relates to potable water supplies.

## **CONDITIONS**

79. A key part of working through resource consent applications is developing conditions. The Application and AEE appended a draft set of conditions. These have been the focal point of discussions during the consent process with the HBRC staff and submitters. Specifically:
- a. Draft Conditions were included with the Application and AEE;
  - b. WDC circulated revised conditions following the second pre-hearing;

- c. HBRC and some submitters provided comment on the revised conditions;
- d. WDC provided revised conditions prior to the s42A reports being released. The conditions were formatted in a way that provided the suggested comments from the HBRC and submitters, with WDC's response and further changes where considered necessary;
- e. The Reporting Officer provided marked-up revised conditions; and
- f. Yet further changes are provided with the Applicant's evidence, and attached in the Bundle of Common Attachments (Annex A).

**80.** Changes to conditions attached in the Bundle of Common Attachments are discussed specifically in evidence of Mr Drury and referred to in evidence of Dr Mead and Mr Lake.

**Hamish Timothy Lowe**

**16 November 2020**

## **Annex A: Common Bundle of Attachments**