



Otago Regional Council

Section 42A Staff Recommending Report

Discharge Permit Application RM15.364
By Clutha District Council

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

Ralph Henderson
Consultant Planner

December 2021

Executive Summary of Recommendation

Clutha District Council (the Applicant or CDC) has applied to renew a discharge permit to discharge wastewater to an outflow channel of Lake Waihola for the purpose of operating the Waihola sewage treatment plant (STP). The Applicant sought a 35 year term of consent

Application RM15.364.01 was notified and the submissions were received.

Following notification, the applicant has amended the term of consent sought to 6 years.

After assessing the actual and potential effects of the applications, considering submissions, and considering all of the matters in section 104 of the Resource Management Act 1991, the recommendation of the consent officer is to grant RM15.364 for a duration of 6 years subject to a reduction in discharge volume to current discharge levels and the recommended conditions of consent.

2. Report Author

My name is Ralph Henderson. I am a Consultant Planner for the Otago Regional Council.

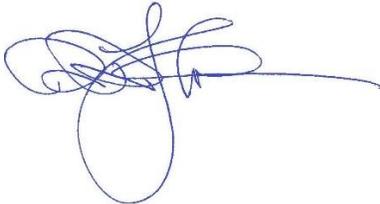
I hold the qualifications of a Masters in Regional and Resource Planning from the University of Otago. I am an employee of Boffa Miskell Ltd and a Full Member of the New Zealand Planning Institute.

I have experience preparing and processing resource consent applications relating to discharge permits having previously worked for the Otago Regional Council as Senior Consents Officer.

I have read and understand my obligations in terms of the Environment Court's Code of Conduct for Expert Witnesses contained in the Practice Note 2014. I confirm that the issues addressed in this report are within my area of expertise. I confirm that I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

I have been involved with the application since 2020.

Ralph Henderson



OTAGO REGIONAL COUNCIL SECTION 42A REPORT

ID Ref: A1232519
Application No: RM15.364
Prepared For: Hearing Commissioner
Prepared By: Ralph Henderson, Consultant Planner
Date: 9 December 2021

Subject: Section 42A Recommending Report – Application by Clutha District Council for discharge permit to discharge treated wastewater to the outflow of Lake Waihola for the purpose of operating the Waihola Wastewater Treatment Plant, Waihola

1. Purpose

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

The report assesses the application in accordance with Sections 104 and 104B of the Resource Management Act 1991 and makes a recommendation as to whether the application should be granted, and a recommendation on the duration of the consent and appropriate conditions.

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

2. Summary of the Application

2.1 Overview

Applicant: Clutha District Council
Applicant's agent: Ryder Consulting/ Rachel Vaughan – Smart Pathways
Site address or location: Lake Waihola, approximately 1.2 kilometres north west of the intersection of Titri Road and Taieri Plains Highway (State Highway 1) Waihola.

Legal description: The discharge point is located on a strip between riverbed and Lot 1 DP 20844

Map reference of point of discharge: NZTM (2000): 1376557E 4902692N

Consent sought: To discharge up to 680 cubic metres per day under normal flow and up to 1,020 cubic metres per day under wet weather conditions

Purpose: For the purpose of disposal of treated sewage effluent from the Waihola Oxidation Pond

Information requested: An initial assessment by Council's Resource Science Unit (RSU) on 20 January 2016 stated that there was inadequate information to determine potential long-term effects on receiving environment. The Applicant supplied a further investigation report 10 September 2018.

Aquanet Consulting Limited (Aquanet) reviewed the information on behalf of Council's RSU and stated that the information was not sufficient to determine potential effects on the receiving environment. A further information s92 request was sent on the 6 June 2019

The applicant responded to the s92 request 19 July 2019

Notification decision: The decision to publicly notify the application was made on 9 August 2019

The following written approvals were obtained prior to notification:

Department of Conservation

Kāi Tahu ki Otago (now Aukaha)

Public Health South

Submissions: A total of three (3) submissions were received by the close of submissions on 13 September 2019

in support: 0

in opposition: 3

neutral: 0

Number of late submissions: 0

Wishing to be heard: 3

Site visit: Alexandra King the consent officer who was processing the application at the time of notification undertook a site visit on 7 June 2018 with Senior Consents Officer Charles Horrell, and Aquanet Scientist Michael Greer.

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

- Discharge volumes
- Level of treatment

- Adherence to conditions of consent
- Certainty regarding the management of effects
- Potential cumulative effects on a sensitive receiving environment
- Consistency with national policy directions for the management of water
- Duration of consent

2.2 Description of Application

The Applicant holds Discharge Permit 2002.046 which authorises the discharge of treated sewage to the Lake Waihola outflow channel. The location of the STP and discharge point to the Lake Waihola outflow channel is shown on Figure 1.



Figure 1: Location of STP and discharge to Lake Waihola Channel (Source: ORC GIS)

The applicant applied to the Otago Regional Council for a new consent to replace 2002.046 and enable the continued discharge of effluent to water for an additional 35 years. The application was lodged with Council 23 December 2015 and received 26 January 2016. Discharge permit 2002.046 expired 1 September 2017.

As the application was made over 6 months of the expiry, the applicant may continue to exercise Discharge Permit 2002.046 until the decision has been made and all appeals considered in accordance with Section 124 of the Act.

The Waihola STP consists of a single oxidation pond approximately 3,800 square metres (m²) in area (Figure 1) and a constructed surface flow wetland which has two parallel cells of 1,000 m² (Figure 3).



Figure 2: Waihola STP oxidation pond 2021 (Source: ORC Compliance Team)

Sewage is collected within Waihola through a gravity reticulation which conveys it to a pump station situated in the Waihola Domain. From there it is pumped to the treatment plant, with additional sewage being introduced by a small pump station serving properties on the northern extremity of Waihola.

The sewage passes through the oxidation pond and into one or other of the wetland cells in series before being discharged to the outflow channel of Lake Waihola.

Metering of the influent flow is achieved via a meter on the outlet from the main pump station, and also one on the outlet from the small pump station serving North Waihola.

The discharge to the outflow channel is pumped from a small pump station on the treatment plant site.



Figure 3: Waihola STP reedbed in 2021 (Source: ORC Compliance Team)

The discharge is pumped approximately 1.5 kilometres from the Waihola STP to the discharge point in the Lake Waihola outlet channel. The outfall is a 100 mm internal diameter high density polyethylene pipe. The pipe is anchored to the bottom of the channel, and extends approximately 24 m from the true right (southern) bank. There are seven 40 mm diameter ports at 1 m centres at the top of the outfall pipe over the last 6.35 m of the outfall pipe. The outlet channel is approximately 5 m deep at the end of the outfall pipe.

2.3 Rates and Volumes of Discharge Sought

The Applicant seeks to retain the current limits consented under Discharge Permit 2002.046 which provides for the discharge up to 680 cubic metres per day (m^3/day) under normal flow and up to 1,020 m^3/day under wet weather conditions.

Currently there are 172 properties connected to the reticulation, including the camping ground. A further 60 properties pay a held rate and so have the right to connect to the reticulation should they be developed.

Condition 2(a) of Discharge Permit 2002.046 required that the discharge be timed to coincide with the latter half of the incoming tide and the initial half of the outgoing tide. This was designed to reduce the risk of treated wastewater being carried from the outfall into Lake Waihola.

Because the outflow is pumped at times determined in accordance with Condition 2(a), the usual daily maximum is governed by the duration actually pumped and the maximum pumping rate. The pumped flow is around 3.8 L/s which gives an average total flow per pumping period of 85 m^3 and a maximum of 170 m^3 .

Discharge records are available from these meters from early February 2013. These records indicate the flow from the main pump station has averaged 85 m^3/day and 8 m^3/day from the

north Waihola pump station – resulting in a total of approximately 93 m³/ day being conveyed to the STP.

Outflows since mid-January 2013 are available, and these incorporate some days of low flow from Waihola, and in June 2015, historically very high flows from the township. The lowest daily total recorded was 31 m³ on 5 May 2015 and the highest 773 m³ on 5th June 2015.

2.4 Quality of Discharge

The applicant proposes to upgrade the Waihola STP. The proposed treatment system was not identified at the time of application and no further information on what is proposed has been provided since that time. The applicant has indicated that the proposed upgrades would significantly improve the quality of treatment and a comparison between the quality limits of the existing STP with what is proposed to be achieved is shown in Table 1.

Table 1: Comparison of effluent quality achieved under existing STP and proposed upgraded system

	pH	BOD ₅ g/m ³	Total phosphorus g/m ³	Faecal coliforms cfu/100 ml	Ammoniacal nitrogen g/m ³	Total nitrogen g/m ³	Suspended solids g/m ³
Existing STP	8.27	99.8	11.03	48,700	25.9	41.0	208.0
Proposed Limits	6.0-9.0	20	10	260	20	35	30

2.5 Term of Consent Sought

At the time of lodgement, the Applicant sought a 35 year term of consent. The Applicant has subsequently revised this and in a letter to the ORC dated 12 November 2021 proposed the term be reduced to 6 years.¹

2.6 Application Documents

The applicant has provided the following documentation with the application:

- (a) The application – Waihola Sewage Treatment Plant: Application to discharge treated sewage effluent to the Lake Waihola outlet channel, CDC;
- (b) Assessment of environmental effects (AEE) – Waihola Oxidation Pond Discharge to the Lake Waihola outflow channel. Assessment of environmental effects, Ryder Consulting Limited (RCL) for CDC, February 2014
- (c) Addendum to the application – Further Investigation of the Waihola STP discharge to the Lake Waihola outlet channel, RCL, June 2018
- (d) S.92 response – Request for further information under section 92(1) of the Resource Management Act 1991 (the Act) – Consent Number RM15.364.01: Discharge Permit – Water WAIHOLA STP, CDC, 27 July 2019
- (e) The backflow minimisation report – Waihola Wastewater Treatment Plant Consent No: 2002.046 Condition 2 (C) Backflow Minimisation Report (CDC)

¹ ORC Document ID: A1561886

2.7 Compliance with existing consent conditions

Auditing of compliance with the requirements of Discharge Permit 2002.046 have been undertaken by the ORC Compliance Team with the most recent audit completed in 2021.

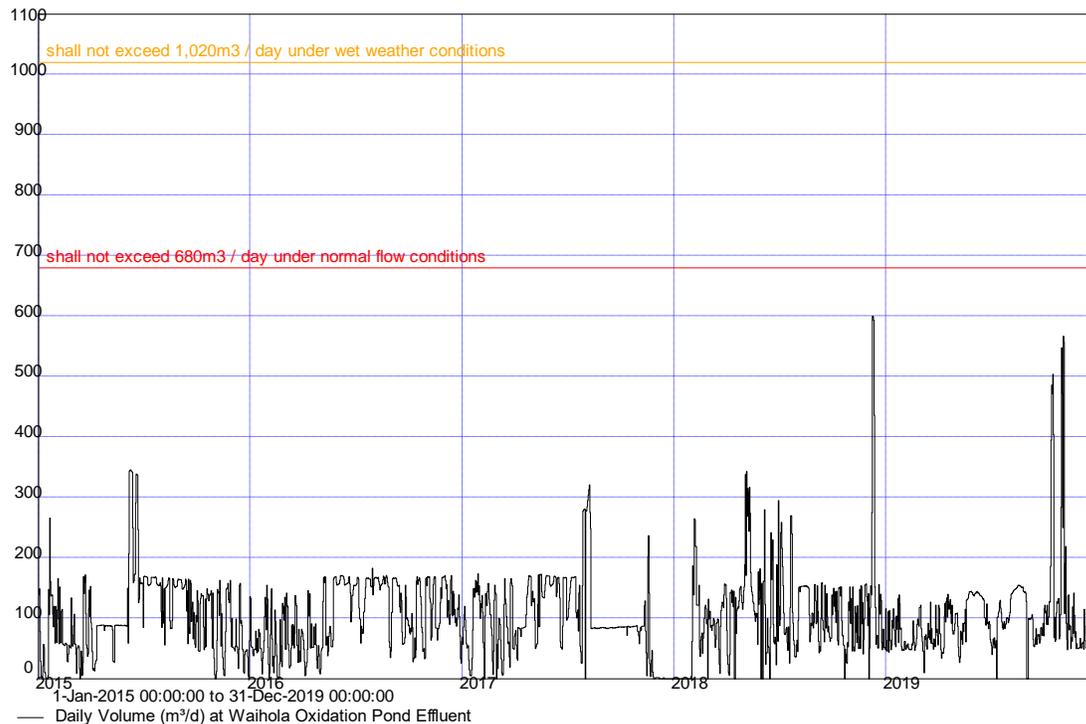


Figure 4: Daily flow volumes between January 2015 and January 2020

Figure 4 indicates that the maximum daily discharge volume did not exceed the 680 m³ limit at any time over the 2015-2019 reporting period. The current pump on site can only pump 7 L/s or 252 m³ maximum per day (dependent on the duration of tide window in which pumping can occur). Via gravity only the site can discharge up to 2 L/s or 180 m³ per day. From the Daily volume graph below the site has discharged below 180 m³ per day for most of 2015-2019. It is unclear if this was via gravity or pump. This distinction is important as the discharge by gravity is not linked to tidal data and may therefore occur outside the tidal window required by Condition 2.

The maximum concentrations of each of the parameters sampled between 2015 and 2021 is illustrated in the graphs outlined in Figure 5 - Figure 9.

These graphs illustrate ongoing breaches of discharge quality limits during this monitoring period.

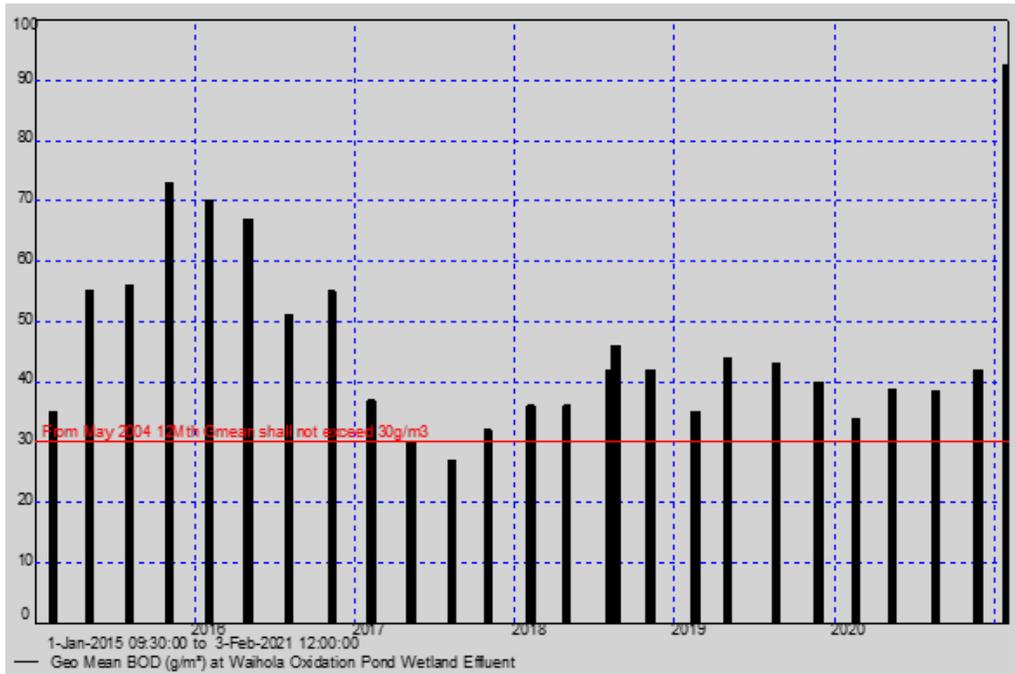


Figure 5: Sampling results for BOD₅ maximums between January 2015 and January 2021. (Source: Compliance Audit Report 2021)

Figure 5 indicates that BOD₅ has remained non-complaint with the Geomean since Jan 2015 (apart from on two occasions in 2017).

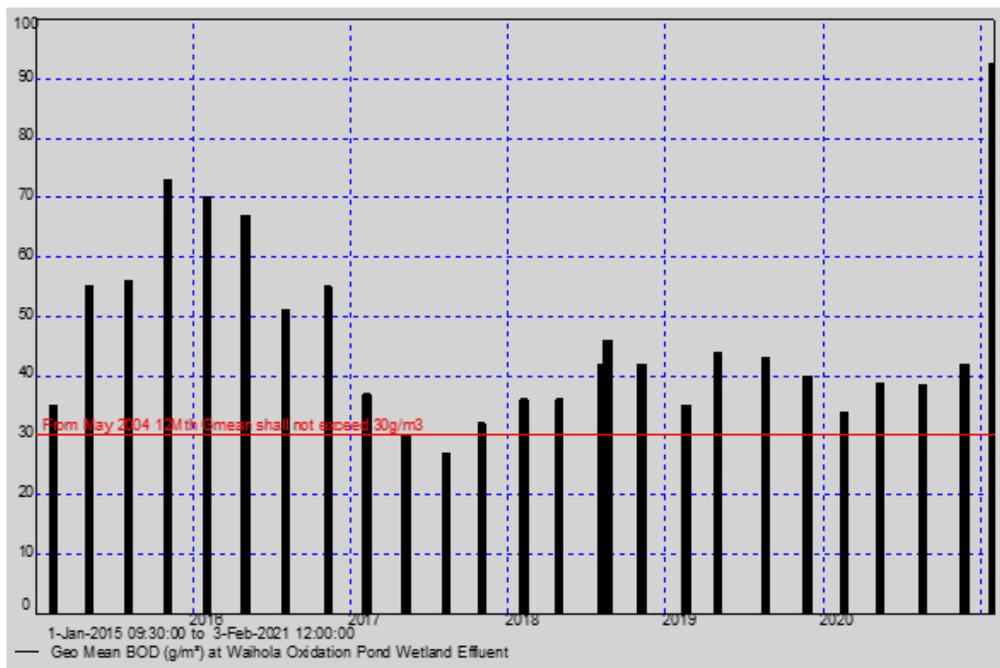


Figure 6: Sampling results for suspended solids between January 2015 and January 2021. Source: Compliance Audit Report dated February 2020.

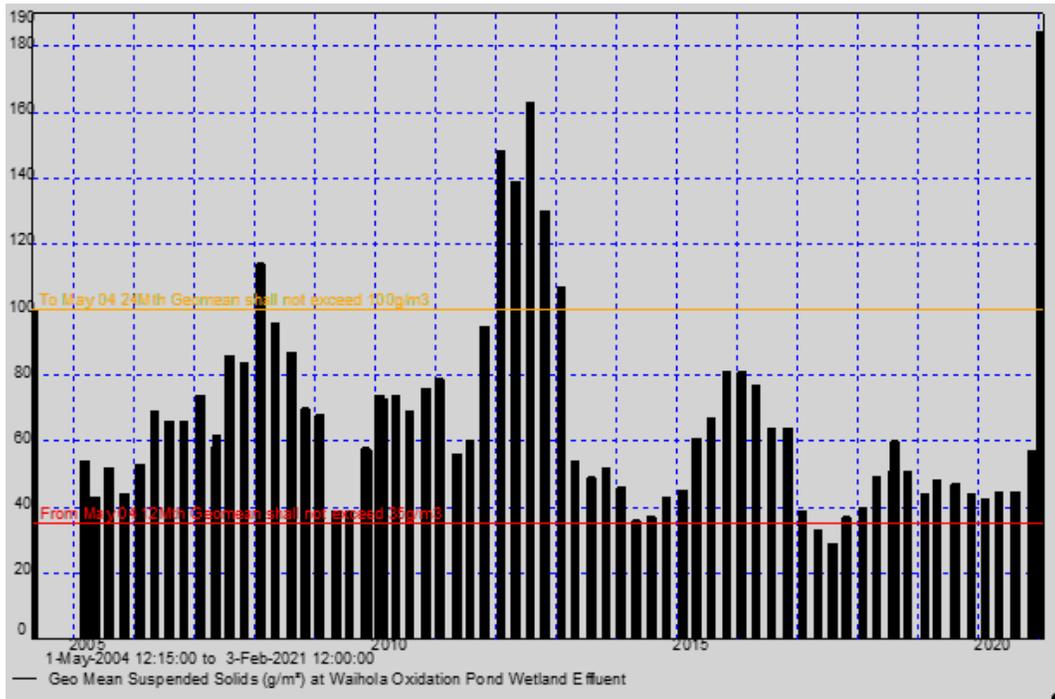


Figure 7: Sampling results for ammoniacal nitrogen between January 2015 and January 2021. (Source: Compliance Audit Report 2021)

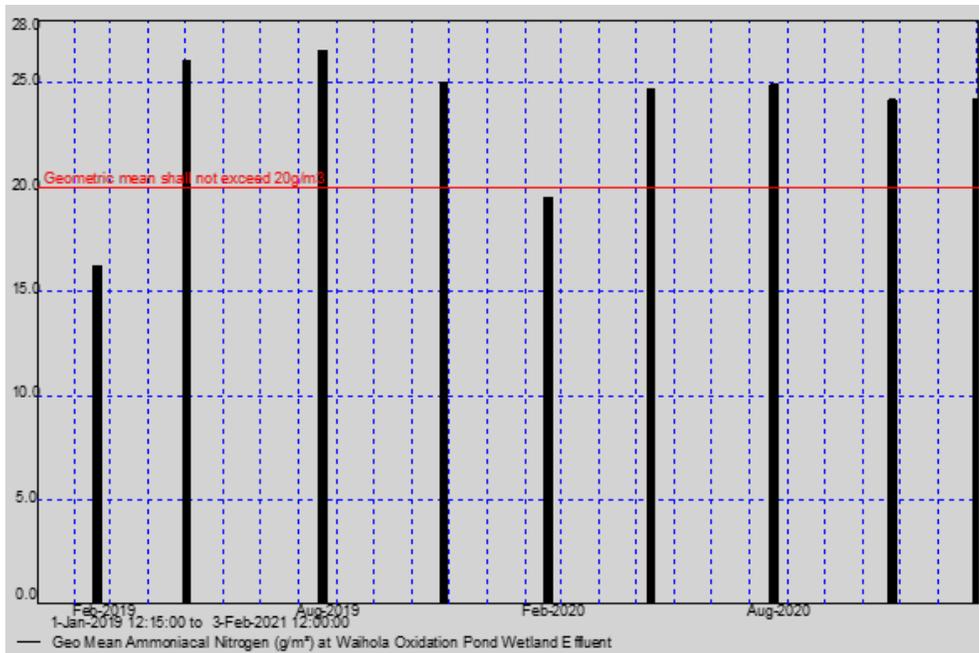


Figure 8: Sampling results for total phosphorus between January 2015 and January 2020. (Source: Compliance Audit Report 2021)

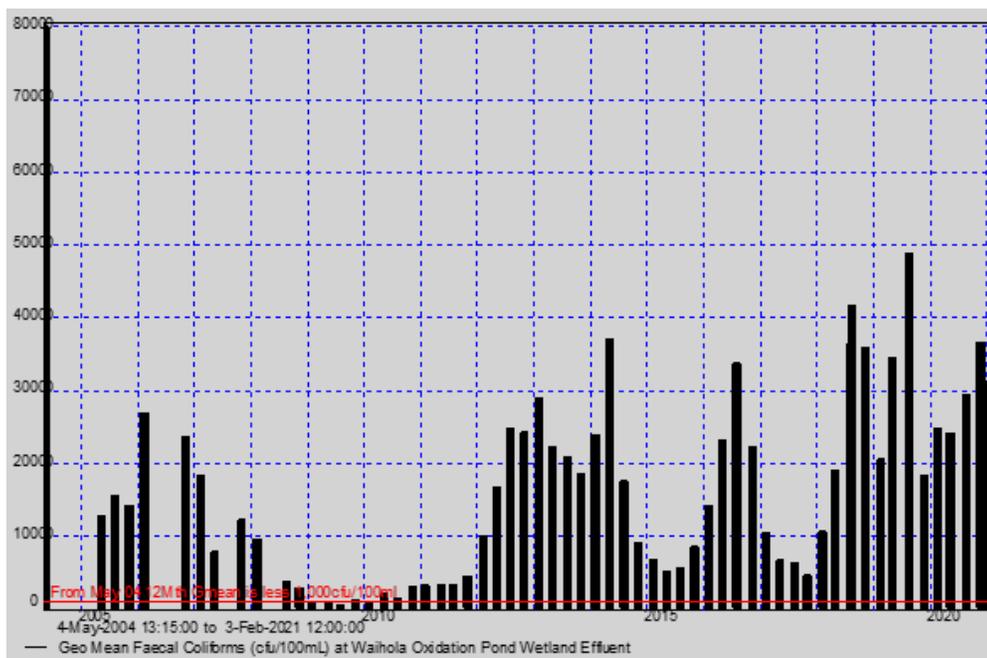


Figure 9: Sampling results for faecal coliforms between January 2015 and January 2020. (Source: Compliance Audit Report 2021)

Compliance audits of Discharge Permit 2002.046 completed since 2016 have all indicated overall non-compliance, with significant non-compliances recorded on two occasions (Table 2).

Table 2: Results of compliance audits 2015-2021 (Source: ORC)

Year	Audit Result
2015	Non-Compliant - Minor
2016	Non-Compliant – minor
2017	<i>No Audit Report</i>
2018	<i>No Audit Report</i>
2019	<i>No Audit Report</i>
2020	Non-Compliant – Significant
2021	Non-Compliant – Significant

Specific issues identified in audits have included the following:

- Inadequate and out-of-date Operations and Management Manual
- High inflows to the oxidation pond necessitated over-pumping of discharges in conflict with the requirements of Condition 2. One incident resulted in a continuous discharge 24 hours a day for 7 days.
- Ongoing non-compliance with dissolved oxygen (DO) limits since 2016. In 2020 76% of samples were non-compliant.
- 3 of the 4 individual samples of BOD₅ taken in 2020 exceeded the 'non sample shall exceed' limit of 50 g/m³. The most recent sample taken 3 February 2021 was 520 g/m³ of BOD₅.
- Frequent exceedances of discharge quality standards have occurred, as illustrated in the following figures 5 – 9, however the ORC compliance team has no record of receiving notification of exceedances, a statement of the cause or required re-sampling

The compliance photo taken in 2021 indicates the reedbed cells are in poor health and vegetation cover is sparse (Figure 3). This will affect their performance as a component of the treatment system. This indicates a failure to maintain or replace dead or missing plants.

As noted in Section 2.3 Condition 2 of the existing consent requires the discharge to occur within a tidal window to avoid the discharge flowing into Lake Waihola. Tidal data methodology indicates the period of discharge is limited to 6 hours 7 minutes. Incorrect tidal data has resulted in pumped discharges occurring for longer periods than this window allows. In 2020 76 individual discharges occurred that were longer than required to comply with Condition 2. Of these discharges 51 were for over 9 hours, 43 were for over 12 hours and 8 were for over 22 hours. In addition, it appears manual discharges have occurred which are not linked to tidal data and can therefore result in discharges occurring outside the tidal window.

Condition 2(c) of Discharge Permit 2002.046 required that:

The consent holder shall undertake an investigation into the options for minimising the backflow of effluent into Lake Waihola. This investigation shall specifically assess the possibility of reducing the period of time effluent is discharged. The consent holder shall provide a final report on this investigation to the Consent Authority prior to the expiry of this consent. The report shall detail the time frame for implementing any proposed changes to the disposal regime.

As a consequence of compliance action, the Applicant undertook an investigation to give effect to the requirements of Condition 2(c). The ORC Compliance officer responsible for auditing Discharge Permit 2002.046 requested my input into the adequacy of the proposed methodology for the purpose of meeting the obligations of Condition 2(c) and if it would inform the current consent process. As I am not a technical specialist in this area I requested Dr Greer review this and this is discussed in his evidence. We provided our advice to CDC in the hope any work undertaken would yield useful information for both purposes. Ultimately our advice was not adopted and we were subsequently informed by the Applicant that the backflow report was only for operational testing.² We have not formally received the backflow testing report as an addendum to this application to date and remain unclear as to its purpose other than to meet compliance obligations.

3. Notification and Submissions

3.1 Notification Decision

Council made the decision to process the application on a publicly notified basis under Section 95A of the RMA on 9 August 2019 (A1259581). The public notice was lodged on 17 August 2019 and submissions closed on 13 September. Written approvals were received by the persons identified in Table 3 below, and therefore any effects on them were disregarded:

Table 3: Persons who provided written approvals

Person
Department of Conservation
Public Health South

² ORC Document ID:A1561786

In addition to the parties identified in Table 2, written approval was obtained from Kāi Tahu ki Otago (now Aukaha). However following notification Ki Tahu ki Otago submitted on the application and it is considered the written approval is no longer valid.

3.2 Submissions Received

Submissions were received from the following persons:

Table 4: Summary of Submissions

Submitter	Summary of Submission Points
Te Rūnanga o Ngāi Tahu	<ul style="list-style-type: none"> • Discharge occurs into area that has significant mahinga kai associations and cultural values for Kāi Tahu • The discharge of human wastewater to water is offensive to the values of Kāi Tahu • Te Rūnanga are deeply concerned that the mauri of the waterbodies associated with this application will continue to be negatively impacted by this discharge activity. • These waterbodies are part of tribal identity and history and reinforce tribal identity and connection to ancestors. • Concern these discharges will further erode the ability of Ngāi Tahu whānui to practice mahinga kai within the Lake Waihola/Waipori Wetland system and downstream • Concerns also relate to all cultural values (e.g. the mauri of the river, wāhi tapu etc) associated with the waterbodies and catchments • This statutory acknowledgement area refers to the mauri of each waterbody “is a critical element of the spiritual relationship of Ngai Tahu whānui with the” wetlands and coastal area. • Has concerns regarding the duration sought for the consent (35 years) • Concerns about effects on ecology of lakes and wetlands <p><u>Relief sought:</u></p> <ul style="list-style-type: none"> • That the application in its current form be declined
Te Nohoaka o Tukiauau / Sinclair Wetlands Trust	<ul style="list-style-type: none"> • The Waipori/Waihola Lake — Wetland complex is a highly valued area for recreational values, hunting, ecological values and cultural values • The wetland complex is degraded in parts and Lake Waihola has poor water quality • The proposed discharge to water is inconsistent with Policy 7.B.1(g) of the RPW • The Trust is concerned about the reliability of the tidal discharge system preventing contamination entering Lake Waihola • The Trust supports improved treatment quality but considers a discharge to land is more appropriate to address the growth at Waihola • A consent term of 35 years is too long. <p><u>Relief sought:</u></p> <ul style="list-style-type: none"> • That the application be declined • That if granted the term of consent should be less than 35 years

<p>Te Rūnanga o Ōtākou (Kāi Tahu)</p>	<ul style="list-style-type: none"> • <i>The proposal is inconsistent with the Kāi Tahu ki Otago Natural Resource Management Plan 2005</i> • <i>The proposal does not promote the discharge of contaminants to land rather than water are required by the RPW, particularly Policy 7.B.1.(g)</i> • <i>The proposal is inconsistent with Policy 7.B.2 – to avoid objectionable discharges of contaminants to maintain natural and human use values, including Kāi Tahu values</i> • <i>Te Rūnanga o Ōtākou seek a return to high water quality in Lake Waihola to support their values and cultural practices. Continued discharges of wastewater will result in continued adverse effects on water quality</i> • <i>The lake is a statutory acknowledgement area and of cultural, spiritual and historic significance to the Runanga</i> • <i>The application fails to assess the cultural impacts on Kai Tahu</i> • <i>The area is a recognised refuge for many threatened and endangered species of plant, fish and bird.</i> <p><u>Relief sought:</u></p> <ul style="list-style-type: none"> • <i>That the application be declined</i> • <i>That if granted the term of consent be no longer than 10 years to allow CDC to investigate options for disposal to land</i>
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All submissions stated they wish to be heard.

4. Description of the Environment

4.1 Description of the Site and Surrounding Environment

A detailed description of the site and surrounding environment is detailed in Section 5.1 of the Council Notification Report and I adopt this description.

4.2 Description of Surface Water Body

A description of the surface water bodies surrounding the proposed discharge and surrounding environment is detailed in Section 5.1 of the notification report and I adopt this description.

I adopt the description of surface water bodies surrounding the proposed discharge as detailed in Section 5.2 of the Notification Report and have included the following figure (Figure 10) from that document for ease of reference.

However, I note the original assessment by the ORC RSU team observed Lake Waihola is in a degraded 'super trophic' state and in recent years has experienced cyanobacteria (blue-green algae) blooms that have impacted on the recreation values of the lake³.

The National Policy Statement for Freshwater Management (NPS-FM) 2020 introduced attribute state classifications for waterbodies. The nutrient and phytoplankton concentrations in Lake Waihola are generally in the "C" attribute state, which is described as:

³ <http://www.odt.co.nz/regions/otago/279328/algal-bloom-affecting-lake-waihola-worsens>

“ecological communities are moderately impacted by additional algal and plant growth arising from nutrient levels that are elevated well above natural reference conditions [and] reduced water clarity is likely to affect habitat available for native macrophytes.”

As noted in the evidence of Dr Greer, concentrations of total phosphorus in Lake Waihola are approaching the NPS-FM 2020 national bottom line.



Figure 10: Map of the Waipori/Waihola Lake-Wetland complex indicating the relative location of the Lake Waihola outflow channel (Source: Application).

4.3 Schedule 1 of the Regional Plan: Water

Section 6.1 of the Notification Report contains a detailed description of the Schedule 1 matters in relation to the proposed application. I adopt this assessment.

4.4 Regionally Significant Wetlands

Schedule 9 of the RPW identifies Regionally Significant Wetlands and Wetland Management Areas.

The point of discharge is within the Waipori/ Waihola Wetland Complex. The wetlands are identified as being Regionally Significant Wetland in the Regional Plan: Water for Otago (RPW) and are identified as the Waipori/ Waihola Wetland Complex.

The wetlands are also encompassed in Schedule 1A as Lakes Waipori/ Waihola in the Taieri Clutha Plains sub region are having significant habitat for many species of birds including scaup,

swans and wetland waterfowl including the fernbird and rare bittern. Birds such as white herons and spoonbills occasionally frequent the area.

4.5 Schedule 15

Schedule 15 of the RPW identifies the outcomes for achieving good water quality in Otago's lakes and rivers. The schedule sets out targets and timeframes for various water quality parameters depending on the sensitivity of the catchment.

Under this schedule, Lakes Waipori and Waihola is identified in Receiving Water Group 4. The targets and timeframes for Lakes Waipori and Waihola are outlined in Table 5.

The limits for Groups 4 are achieved when 80% of samples collected at a site, over a rolling 5-year period, meet or are better than the limits in Schedule 15. A target date of 31 March 2025 is set when the contaminant concentration does not meet the limit as at 31 March 2012.

Table 5: Schedule 15 targets and timeframes for the Lakes Waipori and Waihola. (Source: Schedule 15, Regional Plan: Water for Otago)

	Total nitrogen	Total phosphorus	Ammoniacal nitrogen	<i>Escherichia coli</i>	Turbidity
	0.55 mg/l	0.033 mg/l	0.1 mg/l	126 cfu/100 ml	5 NTU
Lake Waipori & Waihola	31 March 2025	31 March 2025	31 March 2012	31 March 2012	31 March 2025

A number of associated objectives and policies of the RPW direct to ensure that discharges do not result in the targets to be exceeded.

5. Status of the Application

The applicant is proposing to discharge human wastewater directly to water. As the permitted activity rules of the RPW do not provide for the discharge of human wastewater directly to water, this application must be assessed as a **discretionary** activity, pursuant to Rule 12.A.2.1 of the Regional Plan: Water for Otago (RPW).

As the discharge will also include wastewater from an industrial or trade premise (e.g. restaurants) and there are no relevant permitted activity rules for the activity, the discharge is also a **discretionary** activity pursuant to Rule 12.B.4.1 of the RPW. This is in accordance with Rules 12.B.A.1 and 12.B.A.2.

Overall, the application is considered to be a **discretionary** activity.

All other relevant permitted activity rules are complied with, unless discussed above.

6. Section 104 Evaluation

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

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

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

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

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

In considering the adverse effects, the Consent Authority may disregard those effects where the plan permits an activity with that effect, otherwise known as the “permitted baseline”. In the case of this Application, I do not consider there is any permitted baseline to be applied.

Council’s Resource Science Unit (“RSU”) provided an initial assessment of the application and advised that the effects of the discharge require specialist advice that could not be provided from within Council at that time. In accordance with Section 92(2) a report was commissioned from Dr Michael Greer of Aquanet Consulting Limited who provided technical input into the assessment of this application on behalf of RSU. Dr Greer has provided evidence encompassing his assessments through the course of this application. This evidence is attached to this report as **Appendix 2**. The findings of Dr Greer’s assessment are discussed further in the following sections.

6.1.1 Volume of Discharge

The Applicant sought to retain the existing discharge volumes consented under Discharge Permit 2002.046. The existing consent provides for up to 680 m³/ per day under normal flow and up to 1,020 m³/ per day under wet weather conditions. Monitoring of normal flow discharge volumes since 2015 (Figure 4) indicates the STP is operating well within the daily volumes anticipated and therefore the consented volume anticipates a substantial level of growth in the surrounding area. The current average discharge under normal flow is understood to be approximately 102 m³ with a maximum 192 m³.

The application provided little information on growth projections, but I think it can be assumed the daily discharge of 680 m³ is anticipated to be addressing demand at the end of the originally proposed 35 year consent period. Consequently, if a shorter term of consent is sought a reduced

volume of discharge may be appropriate. A reduction in volume can have a significant impact on the effects of a discharge as even if discharge quality is improving an increase in volume discharged may result in an overall increase in the volume of contaminants entering the environment. The

The consent does not define what is considered 'wet weather conditions' and there is no current requirement for the consent holder to provide information to support the need to exceed normal flow events. Monitoring indicates a number of significant peaks where it is assumed inflows have been influenced by surface or stormwater contributions. These represent a challenge to the existing system due to the limited duration in which discharges can occur based on tidal flows and the low pumping rate and compliance data has suggested this has been an issue.

In terms of progressively reducing such discharges, I consider that due to the short-term nature of the proposed discharge, further restrictions are not necessary nor practicable at this time. However due to the constraints on discharges from the system it is considered investigations are needed into measures to reduce additional 'non-waste' flows into the system during wet weather events or to increase capacity to avoid the requirement to discharge outside of the tidal flow window.

As the Waihola STP is not currently equipped to avoid wet weather increases it is suggested that exceedances should only be permitted for a 1 in 10-year rainfall event or greater. These occurrences should be identified based on a local weather station and reported to the Consent Authority to enable the operation of the STP to be properly understood and monitored.

6.1.2 Quality of Discharge

The discharge of effluent to water bodies can adversely affect water quality by altering its chemical and physical characteristics. This in turn can impact upon human and ecological health.

The application states that the Applicant is proposing to upgrade the Waihola and the application identifies stage 2 thresholds to apply once the upgrades are completed. The proposed effluent quality limits detailed in Table 7 of the application are replicated in

Table 6 below. A comparison between the existing limits and the proposed limits is provided in Table 1.

Table 6: Proposed effluent quality limits (Source: Application)

Parameter	48 Months after date of consent, 9 of any 10 consecutive samples not to exceed	From 48 Months after date of consent, 9 of any 10 consecutive samples not to exceed
pH (range)	6.0 – 9.0	6.0 – 9.0
BOD ₅ g/m ³	140	20
Total Phosphorus g/m ³	12	10
Ammoniacal Nitrogen g/m ³	40	20
Total Nitrogen g/m ³	No Limit	35
Total Suspended Solids g/m ³	300	30
E. coli cfu/100ml	100,000	260

As noted in the evidence of Dr Greer, the proposed Stage 2 effluent quality limits represent a significant improvement on the current limits and are framed in a manner that is more consistent with the approach recommended in the New Zealand Municipal Wastewater Monitoring Guidelines.

Table 7: Possible discharge limits based on current Waihola STP discharges (Source: Aquanet)

Parameter	Units	Samples must not exceed Median limits in more than 8 out of 12 consecutive samples	Samples must not exceed 95 th percentile limits in more than 2 out of 12 consecutive samples
5-day iv) Carbonaceous Biochemical Oxygen Demand (BOD ₅)	g/m ³	75	140
Total Suspended Solids (TSS)	g/m ³	100	175
Escherichia coli (<i>E.coli</i>)	cfu/100mL	80,000	315,000
Total ammoniacal nitrogen (NH _{4-N})	g/m ³	23	31
Total phosphorus (TP)	g/m ³	5.7	7.7
Be within the pH range of 6.5 – 9.0			
Be no less 2 g/m ³ of Dissolved Oxygen as an average of any five consecutive weekly measurements taken at approximately 9.00 am.			

The original application proposed a 4 year period in which this would occur in the scope of the 35 year consent. Although the Applicant has proposed a shorter duration of consent, they have not provided any detail regarding the implications of this on consent conditions such as discharge

volumes, as discussed above, or discharge quality. As a consequence, it is uncertain if the Stage 2 limits will be achieved during the term of the reduce consent.

The Applicant requested that the ORC assist in identifying appropriate discharge limits for a potential shorter duration of discharge. To assist in this process Dr Greer analysed discharge data provided by CDC to identify possible limits that could be applied to the consent should a short term consent be contemplated (Table 7). These limits have been provided to CDC for comment regarding their practicality but to-date no response has been received.

6.1.3 Effects on Water Quality and Ecology

The discharge of effluent to water bodies can adversely affect water quality by altering its chemical and physical characteristics. This in turn can impact upon human and ecological health.

The discharge of effluent to water bodies can adversely affect the quality of the aquatic environment and the habitat for established species. Increases in nutrients such as nitrogen and phosphorous can greatly affect the growth and composition of algae and plant communities in an aquatic environment. The discharge of suspended solids can adversely affect visibility for aquatic species, negatively impacting their ability to acquire food acquisition and survivability.

In the Applicant's AEE, they relied on an assessment of water quality undertaken by RCL.

The conclusion of the RCL report recognised the Waihola STP has a history of contaminant non-compliance and often exceeds maximum guideline values. However, RCL concluded:

The discharge of effluent from the Waihola oxidation pond to the outflow channel of Lake Waihola has a minor effect on water quality that is restricted to a localised area immediately downstream of the discharge point. This effect is temporary and shifts with the changing tide. The discharge does not appear to adversely affect aquatic plant, benthic macroinvertebrate, fish or bird communities. The minor and localised effect of the discharge on water in the outflow channel is expected to have minimal, if any, effects on water quality and aquatic communities in Lake Waihola, the surrounding wetland, or the lower Waipori and Taieri Rivers.⁴

The initial review by RSU indicated that there was insufficient data provided with the application to support this conclusion. The Applicant has supplemented the initial AEE with water quality sampling at various points around the Lake Waihola and wetland complex and have subsequently undertaken an estimate of total nutrient loads entering the Lake Waihola wetland complex and estimates of the contribution the Waihola STP will have on those loads .

Proposed improvements to the quality of treatment should improve effluent BOD₅, suspended solids, *E. coli* and nutrient concentrations and if discharge volumes do not increase I would anticipate a reduction in the contaminant loads being discharge to the Lake Waihola Channel.

However, as noted in the evidence of Dr Greer the proposed discharge volume is, on average, approximately six time greater what is currently leaving the plant, and the increase in discharge volume could increase contaminant loadings to the Lake Waihola Channel and potentially Lake

⁴ Assessment of environmental effects– Waihola Oxidation Pond Discharge to the Lake Waihola outflow channel. Assessment of environmental effects, RCL, 2014, page 44

Waihola. Table 8 shows a comparison in current nitrogen and phosphorus against the volume proposed. If the nutrient loading from the increased volume is greater than the reduction achieved by improving discharge quality, it is possible that impacts from nutrient may increase.

Table 8: Comparison of current nutrient load from Waihola STP with volume sought (and consented under 2002.046 (Source: ORC RSU 2016))

	Nitrogen		Phosphorus	
	Daily (kg N)	Annual (kg N)	Daily (kg P)	Annual (kg P)
Current (102 m ³ /day)	1.68	610	0.6	220
Consented (680 m ³ /day)	11.22	4100	4.01	1460

I defer to the evidence of Dr Greer on this matter but note it is his conclusion that the current effects of the Waihola STP discharge on water quality and ecology are unlikely to be more than minor due to the small contribution it makes to the total nutrient load to the Lake Waihola Channel. On this basis it may be concluded that a short term consent at discharge volumes currently occurring will have less than a minor effect on water quality and ecological values.

However, the cumulative effects of discharges to Lake Waihola are substantial and as the lake has been identified as nearing the National Policy Statement for Freshwater Management 202 (NPS-FM) national bottom line of 50 mg/ m³ for phosphorous this is cause for concern.

At the discharge volumes sought by the Applicant the nutrient loading on the Lake Waihola Channel has the potential to cause more than minor effects on water quality and ecology as it would result in a significant increase in nutrient load to as water way that is degraded and nearing the NPS-FM national bottom line for phosphorous.

The effect of increases in nutrient concentrations on the Lake Waihola Channel, or the effects that may flow on to ecosystem values, human health or cultural wellbeing may therefore be more than minor.

6.1.5 Effects on Amenity, Natural Character and Recreation

Amenity values are defined in the RPW as:

Those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

The discharge of treated wastewater to the Lake Waihola Outflow Channel adversely effects amenity values by degrading the pleasantness of the environment and cultural and recreational attributes.

Although the discharge may cause a no more than minor effect on water quality, I consider the discharge is by nature is offensive, particularly due to its current method being in outfall pipes in close proximity to the river.

The lakes and wetlands are recognised for their recreational value including hunting, fishing and aquatic recreation. Recreational values are closely tied to the water quality in that poor water

quality discourages aquatic recreation. However, the established presence of the existing discharge in this area is considered to have reduced the attractiveness of this area for recreational purposes and as a consequence I consider the effect on recreational values to be minor and short term (for the reduced duration of the consent).

However it is noted that if a potential increase in loading resulted in more than minor effects on water quality or ecological values in the wider lake environment this could have a flow on effect to aesthetic values due to change in water characteristics, such as clarity or the occurrence of algal blooms or odour. Similar effects could negatively impact the recreational values of affected water bodies.

Discharges that can affect ecological values, water quality or characteristics of the surface water can affect natural character. A decline in indigenous species can result in the habitat being occupied by exotic species more tolerant of degraded systems. Discharges can result in the potential discolouration of water. This reduces the clarity of the water, thus detracting from the visual amenity and may bring the clarity below the guideline levels for recreational use.

The assessment of effects on water quality and ecological values above indicates the effects of the current level of discharge on these values is less than minor, however the volumes sought may result in an increase in adverse effects. On this basis I consider that while a continuation of the currently volumes of discharge may have no more than a minor effect on the natural character of the river or surrounding wetland a discharge to the volumes currently sought may have a greater impact.

6.1.6 Effects on public health values

Discharges to water can cause adverse effect to recreation and public health values. There are known recreational values associated with the Lake Waihola. The main adverse effect on recreation and public health effects is the potential toxicity effect in particular with increased concentrations of *E. coli*.

The effect of the current volume of discharge on water quality is assessed above and are considered to be no more than minor. The effects of the discharge of *E. coli* are localised around the area of discharge and the limited access and use of this area militates against effects on recreational and public health values. However, it is also recognised that the presence of a wastewater discharge discourages human use and the lack of use of this area may in turn have been influenced by the discharge.

The applicant has provided the unconditional written approval of Public Health South and in accordance with Section 95D(e), effects upon them must be disregarded.

Overall, it is considered that the proposed discharge at the volumes sought may cause an adverse effect on recreational and public health values that is likely to be more than minor.

6.1.7 Effects on Cultural Values

Discharges to water have potential to adversely affect the cultural values associated with a water body. As outlined in the Section 6.1 Notification Report, Schedule 1D of the RPW identifies cultural and spiritual values for lakes and rivers throughout Otago.

Lake Waihola and the wetlands are of significance to Ngai Tahu and were vested in Te Runanga o Ngai Tahu under the Ngai Tahu Claims Settlement Act 1998 as part of the cultural redress. This area is identified as having the following values in Schedule 1D:

- *Kaitiakitanga*: the exercise of guardianship by Kai Tahu, including the ethic of stewardship.
- *Mauri*: life force.
- *Waahi tapu and/or Waiwhakaheke*: sacred places; sites, areas and values of spiritual values of importance to Kai Tahu.
- *Waahi taoka*: treasured resource; values, sites and resources that are valued.
- *Mahika kai*: places where food is procured or produced.
- *Kohanga*: important nursery/spawning areas for native fisheries and/or breeding grounds for birds.
- *Trails*: sites and water bodies which formed part of traditional routes, including tauraka waka (landing place for canoes);
- *Cultural materials*: water bodies that are sources of traditional weaving materials (such as raupo and paru) and rongoa (medicines; and
- *Waipuna*: sources of water highly regarded for their purity, healing and health-giving powers

Section 5.3 of the application discusses the effects on cultural values. The assessment concludes that the preferred cultural alternative of disposal to land is not available for reasons of cost and uncertainty regarding the technical suitability of land for disposal, necessitating the discharge to water. The assessment concludes that the improved treatment will reduce the minor effects on the receiving environment and as a consequence the adverse effects of the discharge on cultural values will be minor and have been mitigated as far as is practicable.

The application has been opposed by Te Rūnanga o Ngāi Tahu, Te Rūnanga o Ōtākou and Te Nohoaka o Tukiauau / Sinclair Wetlands Trust on the grounds of cultural effects as detailed in their submissions and summarised in Section 3.2.

I have considered the assessment of impacts on cultural values by CDC and note that as the discharge is occurring to an area of high value to Kāi Tahu and a discharge of human wastewater directly to water is considered culturally offensive to Kāi Tahu values I cannot agree with the position that the effects on cultural values are less than minor.

As a consequence, it is my opinion that the effects on cultural values are more than minor.

6.1.8 Consideration of alternatives

Section 105(1)(c) of the Act requires the Applicant to consider any possible alternative methods of discharge, including discharge into any other receiving environment.

The Applicant considered two alternatives in Section 4 of the application: these being a land based discharge or the continued discharge to the Lake Waihola Outflow.

The applicant preferred the continued discharge to water over a discharge to land due to the greater cost and concern about the technical feasibility of this option.

In note this assessment was undertaken in 2015 prior to the current national policy direction provided by the NPS-FM.

I note from more recent discussions with staff from CDC that a land based disposal is again being considered.

6.1.9 Positive effects

The proposal will have the following positive effects:

- The proposal enables the treatment of wastewater from the existing Waihola township.
- In the absence of an alternative some means of discharging human wastewater from the existing community is required.

Summary – Actual and Potential Effects

Taking into consideration the positive environmental effects identified above and the assessment of adverse effects done for notification purposes in, actual and potential effects on the environment are considered on balance to be more than minor.

6.2 S104(1)(ab)

In addition to the proposed mitigation measures, the applicant has proposed or agreed to the following measures for the purpose of ensuring positive effects on the environment to offset or compensate for any residual adverse effects that will or may result from allowing the activity.

The applicant has not agreed to any offsetting or compensation activity.

6.3 S104(1)(b) Relevant Planning Documents

The relevant planning documents in respect of this application are:

- The National Environmental Standard for Sources of Human Drinking Water
- The National Policy Statement for Freshwater Management 2020
- Proposed Regional Policy Statement and Partially Operative Regional Policy Statement
- The Regional Plan: Water for Otago
- Proposed Plan Change 7 (Water Permits) (PPC7)
- Proposed Plan Change 8 to the Water Plan

6.3.1 National Environmental Standard for Sources of Human Drinking Water

Regulations 7 and 8 of the National Environmental Standard for Sources of Human Drinking Water (NES) need to be considered when assessing water permits that have the potential to affect registered drinking water supplies that provide 501 or more people with drinking water for 60 or more calendar days each year.

Regulations 11 and 12 of the NES requires the Consent Authority to place an emergency notification condition on relevant consent holders if it is assessed that the activity could pose a risk to the drinking water supply in the case of an unintended event (e.g. a spill or other accident). If the Consent Authority considers that such a risk exists, a condition must be placed on the consents that requires the consent holder to notify the drinking water supplier if such an event occurs. Regulation 11 states that Regulation 12 applies to activities with the potential to affect registered drinking water supplies that supply 25 or more people with drinking water for 60 or more days of a calendar year.

There are no registered drinking water supplies located downstream of the discharge Taieri Catchment.

6.3.2 National Policy Statement Freshwater Management 2020 (NPS-FM)

The National Policy Statement for Fresh Water Management 2020 (“NPS-FM”) provides direction to local authorities and resource users regarding activities that affect the health of freshwater and sets out objectives and policies for freshwater management under the RMA.

The NPS-FM came into force on 3 September 2020, replacing the previous 2014 NPS-FM. Although it retains some of the same principals as the NPS-FM 2014, including a strengthened focus on Te Mana o te Wai, the NPS-FM 2020, amongst other things:

- Sets out a framework of objectives and policies to manage activities affecting freshwater in a way that prioritises first, the health and well-being of water bodies and freshwater ecosystems, second, the health needs of people, and third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.
- Requires regional councils to develop long-term visions for freshwater in their region and include those long-term visions as objectives in their regional policy statement.
- Requires every local authority to actively involve tangata whenua in freshwater management.
- Sets out a more expansive National Objectives Framework, and Freshwater Management Unit, environmental flows and levels setting, and take limit setting processes. This includes 13 new attribute states for ecosystem health, including national bottom lines and national targets.
- Specific requirements to protect streams and wetlands and to provide for fish passage – including new policies which must be included in all regional plans.

Part 2 of the NPS-FM sets out the national objective for future freshwater management and 15 separate policies that support this objective.

Relevant policies from the NPS-FM are considered below:

An assessment of the objective and relevant policies is provided below.

The NPS-FM 2020 sets one objective being:

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

- (a) first, the health and well-being of water bodies and freshwater ecosystems
- (b) second, the health needs of people (such as drinking water)
- (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future

This objective sets as hierarchy and gives clear direction that priority must be given first to the environment before the health needs to people, followed by providing for communities social, economic and cultural well-being.

The disposal of domestic wastewater contributes to the health needs of people and enables them to provide for their social, economic and cultural wellbeing. However, I think the intent of the second tier relates more accurately to providing water as source of health, rather than using its assimilative capacity for the purposes of a discharge and consequently I think the proposal fits most appropriately in the third tier established by the objective.

In regard to giving priority to the health and well-being of the freshwater ecosystems, as discussed in Section 6.1.3 of this Report, the proposal will result in increased loading of contaminants to Lake Waihola Channel.

Based on the observed effects of the current discharge, Aquanet have considered that there is a no more than minor adverse effect, which is not likely to change at the current level of output, subject to the proposed conditions and shortened duration.

However, it is noted that this level of discharge does not provide for the future growth of Waihola and the Applicant will need to consider alternative options to manage the effects of wastewater disposal.

At the volume of discharge sought by the Applicant the effects of the proposal are uncertain and may have a potential adverse effect on the health and well-being of the Lake Waihola Channel and potentially Lake Waihola.

Priority to the first and second tiers of the objective will be achieved in the long-term, and the effects on the ecosystem health and the health needs of people will not change from what currently occurs in the short term. Based on this, I consider that the proposal generally aligns and is not contrary with the objective of the NPS-FM.

I consider that the following policies are also relevant:

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.

The NPS-FM defines the concepts of Te Mana o Wai as being:

“Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.”

The mauri of the waterway, health of the environment (including in relation to the concept of ki uta ki tai) and the waterbody were considered as part of my assessment of effects in this report.

Te Mana o Te Wai is a holistic concept. The RPW does not provide for Te Mana o Te Wai or the management of the full catchment. Based on the assessment of effects on water quality and ecological values the volume of discharge proposed will may have an adverse effect on Te Mana o Te Wai. Should this consent be granted I would recommend a reduction in the volume of wastewater to current levels and a shortened duration of consent.

Policy 2: Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.

Māori freshwater values are defined in the NPS-FM as being: “the compulsory value of mahinga kai and any other value (whether or not identified in Appendix 1A or 1B) identified for a particular FMU or part of an FMU through collaboration between tangata whenua and the relevant regional council”

The proposal is inconsistent with Māori freshwater values as articulated in the RPW and the iwi management plan.

Tangata whenua have submitted in opposition to this proposal.

Policy 5: Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.

The national objectives framework (NOF) establishes a process for identifying and monitoring the state of freshwater management units (FMU) in the region. The process for establishing a national objectives framework requires the regional council identify freshwater management units in the region and the values for each FMU. Attributes and baseline states are to be established for each FMU to enable monitoring of water bodies and freshwater ecosystems and to enable action to be taken if degradation is detected. The NOF has not yet been implemented in Otago; however, the Proposed Regional Policy Statement 2021 has included policies relating to FMU. It is anticipated that attributes and baseline states will be implemented through the review of the RPW currently underway. This policy suggests that a very significant level of treatment will be required to continue to discharge nutrients in these environments and considered in the context of the cost of this level of treatment other options may become more appropriate.

I consider the requirement to ensure the health and well being of degraded water bodies and freshwater ecosystems is improved will prove difficult for activities such as the Waihola STP which are contributing to the cumulative effects on a degraded waterway. Based on the analysis by Dr Greer the volume of discharge sought will make a more than minor contribution to the nutrient load in the Lake Waihola Outlet Channel and would therefore would not be improving the health and well-being of the water body. I also note that my recommended approach, which would be to maintain discharge volumes at the current or near current level would be maintaining the status quo over the short term of the consent, with the intent that medium to long term improvements would be achieved.

Policy 9: The habitats of indigenous freshwater species are protected.

As outlined in Section 6.1.3 of this report, a discharge at current volumes is unlikely to cause more than minor adverse effects in the short term and during the proposed duration, the applicant could more rigorously investigate alternative options for the disposal of wastewater for the community of Waihola.

Schedule 2A of the NPS-FM sets out the attribute states for waterbodies and provides direction for where waterbodies are degraded or require enhancement. Lake Waihola is potentially degraded and increased loading of nutrients to the waterbody may further compromise the health of the waterway. As a consequence, any future proposal to increase the volume of wastewater discharged will need to rigorously address the potential effects of loading on this system.

Policy 15: Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.

The proposed discharge enables the discharge of wastewater from the Waihola community however I consider, the discharge at the volumes sought would be inconsistent with other policies of the NPS-FM.

I consider providing a short term discharge with a reduction in the volume to current levels would more appropriately balance the needs of the community with the requirements of the NPS-FM.

Overall, I consider the proposal is consistent with the NPS-FM.

6.3.6 Proposed Regional Policy Statement and Partially Operative Regional Policy Statement

The partially operative RPS was made partially operative on the 14th of January 2019 (“PO-RPS”) and through various court orders. Since then there have been number of appeals resolved through the Environment Court. On 15 March 2021, the Council approved and provided notice for these further provisions to be added to the PO-RPS. The provisions that are the subject of court proceedings and are not made operative is now limited to Policy 4.3.7 (significant infrastructure) and specific methods of Chapter 3. None of the remaining proposed provisions are applicable to the application, therefore full weight and consideration can be provided to the PO-RPS.

On 26 June 2021 Council notified the proposed Otago Regional Policy Statement. This RPS gives effect to the NPS-FW 2020 and includes freshwater visions, FMU’s and rohe. As this RPS has been notified, it has been included and assessed below.

The relevant provisions of the PORPS include:

- *Provide for the economic wellbeing of Otago’s people and communities by enabling the resilient and sustainable use and development of natural and physical resources (Policy 1.1.1)*
- *Provide for social and cultural wellbeing and health and safety by recognising and providing for Kāi Tahu values; taking into account the values of other cultures; taking into account the diverse needs of Otago’s people and communities; avoiding significant adverse effects of activities on human health; promoting community resilience and the need to secure resources for the reasonable needs for human wellbeing; promoting good quality and accessible infrastructure and public services (Policy 1.1.2)*
- *Achieve integrated management of Otago’s natural and physical resources (Policy 1.2.1)*
- *Taking the principles of Te Tiriti o Waitangi into account including by involving Kāi Tahu in resource management processes implementation, having particular regard to the exercise of kaitiakitaka and taking into account iwi management plans (Policy 2.1.2)*
- *Managing the natural environment to support Kāi Tahu wellbeing (Policy 2.2.1)*
- *Recognise and provide for the protection of sites of cultural significance to Kāi Tahu including the values that contribute to the site being significant (Policy 2.2.2)*

- *Enable Kāi Tahu relationships with wāhi tupuna by recognising that relationships between sites of cultural significance are an important element of wāhi tupuna and recognising and using traditional place names (Policy 2.2.3)*
- *Enable sustainable use of Māori land (Policy 2.2.4)*
- *Safeguard the life-supporting capacity of fresh water and manage fresh water to:*
 - *Maintain good quality water and enhance water quality where it is degraded, including for:*
 - *Important recreation values, including contact recreation; and,*
 - *Existing drinking and stock water supplies;*
 - *Maintain or enhance aquatic:*
 - *Ecosystem health;*
 - *Indigenous habitats; and,*
 - *Indigenous species and their migratory patterns.*
 - *Avoid aquifer compaction and seawater intrusion;*
 - *Maintain or enhance, as far as practicable:*
 - *Natural functioning of rivers, lakes, and wetlands, their riparian margins, and aquifers;*
 - *Coastal values supported by fresh water;*
 - *The habitat of trout and salmon unless detrimental to indigenous biological diversity; and*
 - *Amenity and landscape values of rivers, lakes, and wetlands;*
 - *Control the adverse effects of pest species, prevent their introduction and reduce their spread;*
 - *Avoid, remedy or mitigate the adverse effects of natural hazards, including flooding and erosion; and,*
 - *Avoid, remedy or mitigate adverse effects on existing infrastructure that is reliant on fresh water. (Policy 3.1.1)*
- *Identify and protect outstanding freshwater bodies (Policy 3.2.13 & 3.2.14)*
- *Identify and protect the significant values of wetlands (Policy 3.2.15 & 3.2.16)*
- *Apply a precautionary approach to activities where adverse effects may be uncertain, not able to be determined, or poorly understood but are potentially significant (Policy 4.4.3)*

The continued operation of the Waihola STP will provide for the reasonable needs of the community by providing reticulated wastewater.

The propose discharge is not consistent with the direction of Iwi management plans and adversely affects an area of cultural significance to Iwi. The proposal has been opposed by Kāi Tahu and local Rūnaka. On this basis I consider the proposal is inconstant with the policies seeking to manage the impacts on cultural well-being.

Effects on freshwater values have been considered in Section 6 of this report.

Policy 3.1.1 directs to improve water quality where water quality is degraded. As noted, Lake Waihola is not meeting a number of the thresholds of Schedule 15 and is approaching NPS-FM thresholds for phosphorus. In terms of safeguarding the life supporting capacity of Lake Waihola Channel's freshwater values, as directed through Policy 3.1.1, values will not be Affected by

discharges at the current level, but may be affected by the volume of discharge as sought by the Applicant.

Consenting a shortened duration of this discharge will not improve the degraded state of Lake Waihola in the short term but will provide time for alternative options to be more thoroughly investigated.

A shortened duration of consent will ensure that any long-term adverse effects are avoided, and reconsideration can be provided under any future planning framework that further gives effect to Policy 3.1.1. As the volume of discharge sought was intended to provide for loading capacity in 35 years' time, I consider it reasonable to reduce the volume proposed to be discharged to current levels or levels that anticipate a limited level of growth over the duration of the consent. Policy 3.2.14 requires the protection of outstanding freshwater bodies. Policy 3.2.16 requires the function and values of wetlands to be protected by maintaining significant values and avoiding, remedying or mitigating other adverse effects.

The outstanding freshwater bodies have yet to be identified as required by Policy 3.2.13, however as the area of discharge is a regionally significant wetland and a statutory acknowledgement area of significance to Kāi Tahu I consider it would merit consideration as such.

The submissions by Te Rūnanga o Ngāi Tahu, Te Rūnanga o Ōtākou (Kāi Tahu) and Te Nohoaka o Tukiauau / Sinclair Wetlands Trust articulate the importance of this area to them culturally, spiritually and historically and the impact the discharge is having on these values.

Policy 5.4.3 requires a precautionary approach be adopted for activities where the adverse effects may be uncertain, poorly understood but potentially significant or irreversible.

I consider adopting a precautionary approach is appropriate in the circumstances of this application. The receiving environment is highly valued but sensitive and in a degraded state. The Waihola STP has a history of non-compliances and historically has failed to meet discharge quality limits. The cumulative effects of the volume of discharge proposed could result adverse effects that are more than minor. I also note the volume sought is not required if the duration of consent is reduced as limited development will occur within the life of the consent. I consider a precautionary approach would be reflected by a reduction in both the duration of the consent and the volume of wastewater to be discharged.

Overall, I consider that the applications are generally consistent with the provisions of the PO-RPS

Proposed Otago Regional Policy Statement (P-ORPS 2021)

Policy IM-O2 reflects the decision making hierarchy introduced by the NPS-FM, but applies this hierarchy more widely to the natural environment. The policy requires that all decision making under the PRPS shall:

first, secure the long-term life-supporting capacity and mauri of the natural environment, secondly, promote the health needs of people, and thirdly, safeguard the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

The proposed discharge enables the community of Waihola to provide for their social, economic, and cultural well-being and will promote the health needs of the community, however, as determined by the assessment of effects the proposal may adversely affect the long term life supporting capacity and mauri of the Lake Waihola and wetland complex. The impact of the proposed volume of discharge is uncertain and may result in adverse cumulative effects on a significant and culturally important waterbody. I also note that in relation to the third tier of the hierarchy, and based on the submissions, Iwi would likely consider the proposal does not provide for the cultural well-being of Kai Tahu.

Policy LF-WAI-P4 requires policies fundamental to giving effect to the concept of Te Mana o te Wai are given effect to. These policies include policies LF-WAI-O1, LF-WAI-P1, LF-WAI-P2 and LF-WAI-P3.

The PRPS includes a suite of policies requiring resource management process give effect to the principles of Te Tiriti o Waitangi and the natural environment is managed to support Kāi Tahu well-being. These include policies MW-O1, MW-P1-3 and IM-O2. I consider these requirements substantially the same as those established under the PO-RPS and consider the application is inconsistent with the policy direction seeking to manage effects on cultural values.

The submissions by Te Rūnanga o Ngāi Tahu, Te Rūnanga o Ōtākou (Kāi Tahu) and Te Nohoaka o Tukiaauau / Sinclair Wetlands Trust articulate the importance of this area to them culturally, spiritually and historically and the impact the discharge is having on these values.

Policy IM-P6 Avoid unreasonable delays in decision-making processes by using the best information available at the time, including but not limited to mātauraka Māori, local knowledge, and reliable partial data.

The Applicant has objected to the decision of the ORC to bring this application to a hearing at this time. I have only been processing this application since 2020 but note that it was lodged in 2015 and for a substantial period of time little progress has been made by the Applicant to resolve issues with submitters or to advance this application. In bringing this proposal to a decision at this time I acknowledge a number of matters remain unresolved however I believe we have an obligation to the submitters to bring this matter to a resolution for the following reasons:

- During this time the Waihola STP has continued to operate under the existing and increasingly outdated consent conditions.
- ORC compliance audits of the Waihola STP have also indicated substantial non-compliances over the last two years.
- Changes in national direction over the last five years have also resulted in considerable changes at a Policy level which are not reflected in the original application.
- The time period in which any upgrade to the existing STP will occur continues to be deferred while the consent is in process.

IM-P15 Adopt a precautionary approach towards proposed activities whose effects are uncertain, unknown or little understood, but could be significantly adverse, particularly where the areas and values within Otago have not been identified in plans as required by this RPS.

I consider my response to policy 5.4.3 of the PO-RPS above is equally relevant to this policy.

The PRPS introduces specific policies to give effect to the NPS-FM. LF-WAI-O1 Te Mana o te Wai requires that the mauri, health and well-being of Otago's water bodies is protected, and restored where it is degraded. LF-WAI-P3 requires the integrated management of freshwater and land, including:

3. *sustains and, wherever possible, restores the habitats of mahika kai and indigenous species, including taoka species associated with the water body,*
4. *manages the effects of the use and development of land to maintain or enhance the health and well-being of freshwater and coastal water,*
7. *has regard to cumulative effects and the need to apply a precautionary approach where there is limited available information or uncertainty about potential adverse effects.*

Policy LF-FW-O8 also requires that the health of the wai supports the health of the people and the significant and outstanding values of Otago's outstanding water bodies are protected.

Policy LF-VM-O4 establishes a specific vision for the Clutha Mata-Au FMU, which states at LF-VM-O4:

By 2050 in the Taieri FMU

(2) the ongoing relationship of Kāi Tahu with wāhi tūpuna is sustained, ...

(3) healthy wetlands are restored in the upper and lower catchment wetland complexes, including the Waipori/Waihola Wetlands, Tunaheketaka/Lake Taieri, scroll plain, and tussock areas, ...

(7) there are no direct discharges of wastewater to water bodies, ...

As the Applicant has revised the duration of consent sought the proposal is not directly inconsistent with this policy however it provides further evidence of a strong policy direction away from discharges to water in this FMU and the need to restore the health of the receiving environment of the current discharge.

LF-FW-P7 – Freshwater environmental outcomes, attribute states (including target attribute states) and limits ensure that:

(1) the health and well-being of water bodies is maintained or, if degraded, improved,

(2) the habitats of indigenous species associated with water bodies are protected, including by providing for fish passage,

(3) specified rivers and lakes are suitable for primary contact within the following timeframes:

(a) by 2030, 90% of rivers and 98% of lakes, and

(b) by 2040, 95% of rivers and 100% of lakes, and

(4) mahika kai and drinking water are safe for human consumption,

(5) existing over-allocation is phased out and future over-allocation is avoided, and

(6) freshwater is allocated within environmental limits and used efficiently.

Policy LF-FW-P7 reflects the direction of Policy 5 of the NPS-FM. The PRPS has identified broad FMU but attribute states and limits will be introduced through the review of the RPW. However, as is the case with Policy 5 of the NPS-FM I consider the direction to improve degraded waterways will prove challenging for activities discharging nutrients to degraded waterways. As discussed in relation to Policy 5, this policy suggests that a very significant level of treatment will

be required to continue to discharge nutrients in these environments and considered in the context of the cost of this level of treatment other options may become more appropriate.

Even at current levels I do not consider the discharge improves the quality of the Lake Waihola Outflow Channel and is therefore not consistent with this policy. I consider a short term consent is a pragmatic option to enable the Applicant to more rigorously consider their options to manage this discharge under the new policy framework.

Schedule 15 includes the current discharge limits for Lake Waihola and it is recommended that these be included as a condition of consent in the event this proposal be approved.

LF-FW-P12 –The significant and outstanding values of outstanding water bodies are:

- (1) identified in the relevant regional and district plans, and*
- (2) protected by avoiding adverse effects on those values.*

Policy LF-FW-P12 requires regional and district councils go through a process to identify significant and outstanding water bodies, identify them in planning documents and provide mechanisms to protect them. The PRPS includes criteria for identifying outstanding water bodies in Appendix APP1. I acknowledge that this process has not yet occurred however I consider the Lake Waihola/ Waipori wetland complex would be consistent with many of the values identified due to its recognition as a regionally significant wetland and statutory acknowledgement area.

Policy LF-FW-P15 relates specifically to wastewater discharges and provides the following direction:

Policy LF-FW-P15 Minimise the adverse effects of direct and indirect discharges of stormwater and wastewater to freshwater by:

- (1) except as required by LF-VM-O2 and LF-VM-O4, preferring discharges of wastewater to land over discharges to water, unless adverse effects associated with a discharge to land are greater than a discharge to water, and*
- (2) requiring:*
 - (a) all sewage, industrial or trade waste to be discharged into a reticulated wastewater system, where one is available,*
 - (b) all stormwater to be discharged into a reticulated system, where one is available,*
 - (c) implementation of methods to progressively reduce the frequency and volume of wet weather overflows and minimise the likelihood of dry weather overflows occurring for reticulated stormwater and wastewater systems,*
 - (d) on-site wastewater systems to be designed and operated in accordance with best practice standards,*
 - (e) stormwater and wastewater discharges to meet any applicable water quality standards set for FMUs and/or rohe, and*
 - (f) the use of water sensitive urban design techniques to avoid or mitigate the potential adverse effects of contaminants on receiving water bodies from the subdivision, use or development of land, wherever practicable, and*
- (3) promoting the reticulation of stormwater and wastewater in urban areas.*

In terms of consistency with Policy LF-FW-P15 in note the current application does not prefer a discharge to land over a discharge to water and there is no evidence to suggest that a discharge to land would result in adverse effects that are greater than those that may occur to water. I consider the Waihola STP particularly vulnerable to variations in wet weather overflows due to the limited rate of discharge and the limited time during which discharges can occur within the

tidal window and measures should be implemented to reduce non-wastewater inflows into the system.

I consider that recent compliance reports do not support the proposition that the existing STP is designed and operated in accordance with best practise standards or the existing consent standards and conditions. The current conditions do not reflect current best practise.

I also consider the location of the proposed infrastructure is not consistent with the requirements of Policy EIT-INF-P13 which requires avoidance of the location of infrastructure in the following locations:

- (1) avoid, as the first priority, locating infrastructure in all of the following:*
 - (a) significant natural areas,*
 - (b) outstanding natural features and landscapes,*
 - (c) natural wetlands,*
 - (d) outstanding water bodies,*
 - (e) areas of high or outstanding natural character,*
 - (f) areas or places of significant or outstanding historic heritage,*
 - (g) wāhi tapu, wāhi taoka, and areas with protected customary rights, and*
 - (h) areas of high recreational and high amenity value, and*

The values of Lake Waipori and the regionally significant wetlands in which the discharge is located are discussed in Section 6.1.3 of this report. As a regionally significant wetland I consider this area is a significant natural area and is also a natural wetland. As noted by the submitters the receiving environment is a statutory acknowledgement area of cultural significance to Iwi and the wider Lake Waiholā area potentially affected by cumulative effects is an area of high recreational value.

Policy EIT-INF-P14 requires that when considering proposals to develop or upgrade infrastructure

- (1) require consideration of alternative sites, methods and designs if adverse effects are potentially significant or irreversible, and*
- (2) utilise the opportunity of substantial upgrades of infrastructure to reduce adverse effects that result from the existing infrastructure, including on sensitive activities.*

The assessment of effects on water quality identifies the effects of discharging the full volume sought by way of this application are uncertain and may result in cumulative effects on the Lake Waiholā wetland complex that are more than minor. In the context of the degraded state of Lake Waiholā and the proximity of phosphates to national guideline levels in the NPS-FM this may contribute to a decline in the health of the lake that if not irreversible may have long term effects due to the duration in which phosphates can remain in shallow lakes.

I acknowledge the application did include an assessment of an alternative method of discharge however I am uncertain that a single alternative to the current proposal fully reflects the range of options that may be available or is adequate in the context of the environmental and cultural sensitivity of the proposal.

Overall, I consider the application exhibits some inconsistencies with key policies with of the PO-RPS and the PRPS and the specific policies for wastewater disposal and infrastructure support the proposal. This is particularly due to the potential nutrient loading the volume of discharge sought may place on the environment and the cultural effects of the discharge to water in an area

of cultural importance and does not reflect the stated vision for the Taieri FMU. Given the sensitivity of the receiving environment to increased nutrient loads and the strong policy direction to avoid discharges to land and for the restoration of degraded waterways I consider consenting the discharge in this location will become increasingly difficult.

A reduction in the volume of discharge sought would reduce the risk of potential adverse effects on the environment and would be more consistent with the policy direction of the PO-RPS and the PRPS. I consider the discharge to water is inconsistent with the policy direction to manage the natural environment to support Kāi Tahu wellbeing and to recognise and protect sites of cultural significance to Kāi Tahu. However, I note some of the submitters have indicated that a shorter duration of consent acceptable in some circumstances and the Applicant has reduced the duration from that originally requested.

6.3.7 Regional Plan: Water for Otago

The RPW specifies issues, objectives and policies that address water quality issues. The applicable chapters subject to this application are Chapter 5: Natural and human use values of lakes and rivers; and Chapter 7: Water Quality. A discussion of the relevant policies from each of these chapters is provided below.

Chapter 5: Natural and human use values

Policy 5.4.1 *To identify the following natural and human use values supported by Otago's lakes and rivers, as expressed in Schedule 1:*

- (a) *Outstanding natural features and landscapes;*
- (b) *Areas with a high degree of naturalness;*
- (c) *Areas of significant indigenous vegetation, significant habitats of*
 - (i) *indigenous fauna, and significant habitats of trout and salmon;*
- (d) *Ecosystem values;*
- (e) *Water supply values;*
- (f) *Registered historic places; and*
- (g) *Spiritual and cultural beliefs, values and uses of significance to Kai Tahu.*

Policy 5.4.2 *In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding, in preference to remedying or mitigating:*

- (1) *Adverse effects on:*
 - (a) *Natural values identified in Schedule 1A;*
 - (b) *Water supply values identified in Schedule 1B;*
 - (c) *Registered historic places identified in Schedule 1C, or*
- (a) *archaeological sites in, on, under or over the bed or margin of a lake or river;*
- (b) *Spiritual and cultural beliefs, values and uses of significance to Kai Tahu identified in Schedule 1D;*
- (c) *The natural character of any lake or river, or its margins;*
- (d) *Amenity values supported by any water body; and*
- (2) *Causing or exacerbating flooding, erosion, land instability, sedimentation or property damage.*

The Schedule 1 natural and human use values subject to this application are summarised in Section 6.1 of the Notification Report. The scheduled values include the high number and diversity of species and habitat variety, the presence of a significant range of indigenous fish species, including some threatened with extinction, spawning and development areas for eel and trout, the presence of indigenous waterfowl and a significant habitat for a variety of waterfowl. This area is recognised by Kāi Tahu for the customary value of mahinga kai in the wider catchment. I consider these values are closely correlated to ecological health.

The potential for adverse effects on water quality and ecological values is outlined in Section 6.1.3. The assessment by Dr Greer agrees with the applicant's consultants view that the effects of the current volume and concentration of discharge on ecological values are no more than minor. However, although the Applicant has proposed to improve discharge quality, as noted by Dr Greer an increase in nutrient loading may have an adverse effect that is more than minor.

In terms of providing preference to avoiding adverse effects, I would therefore consider avoiding adverse effects would be to ensure the loading of discharge on the receiving environment is not increased.

There are no recorded water supplies, historic places or archaeological sites on the Taieri River in proximity to the discharge.

The effects on natural character and amenity are discussed in Section 6.1.5. I consider the observation of a wastewater discharge or signage warning of one will negatively affect the perception of the natural character of the area. However, as the discharge point is established and the effects of this structure and signage warning of the discharge will not change, I consider these effects to be less than minor. I consider other potential effects on natural character and amenity will arise from observable changes to the characteristics of the water, such as clarity or odour, or loss of ecological or habitat values which may affect 'naturalness'.

Overall, consider the application is inconsistent with Policy 5.4.2.

Policy 5.4.3 *In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding adverse effects on:*

- (a) Existing lawful uses; and*
- (b) Existing lawful priorities for the use, of lakes and rivers and their margins.*

There are no consented water takes downstream of the discharge. Water may be used in accordance with permitted activities for stock water drinking however due to the location of the take and the volume of water in the Lake Waihola Outlet Channel the ability of stock to access the river in the vicinity of the take is low. The water quality will be met stock drinking water standards and due to the nature of the watercourse, treatment for domestic water would be required regardless of the existence of the discharge. However, this is not a result of the proposed discharge rather the existing environment and I consider a domestic take from the river in this area unlikely due to its tidal nature.

Policy 5.4.4 *To recognise Kai Tahu's interests in Otago's lakes and rivers by promoting opportunities for their involvement in resource consent processing.*

The effect of the proposal on Kai Tahu values has been assessed in Section 6.1.7. Submissions have been received in opposition from Te Rūnanga o Ōtākou, Te Nohoaka o Tukiauau / Sinclair Wetlands Trust and Te Rūnanga o Ngāi Tahu.

Policy 5.4.9 *To have particular regard to the following qualities or characteristics of takes and rivers, and their margins, when considering adverse effects on amenity values:*

- (a) Aesthetic values associated with the lake or river; and*
- (b) Recreational opportunities provided by the lake or river, or its margins.*

Particular regard has been given to amenity values as outlined in Section 6.1.5 of this report.

As noted previously the current effects on amenity and recreational values are considered less than minor. However it is noted that if a potential increase in loading resulted in more than minor effects on water quality or ecological values in the wider lake environment this could have a flow on effect to aesthetic values due to change in water characteristics, such as clarity or the occurrence of algal blooms or odour. Similar effects could negatively impact the recreational values of affected water bodies.

Chapter 7: Water Quality

Policy 7.B.1 *Manage the quality of water in Otago lakes, rivers, wetlands and groundwater by:*

- (a) Describing, in Table 15.1 of Schedule 15, characteristics indicative of good quality water; and*
- (b) Setting, in Table 15.2 of Schedule 15, receiving water numerical limits and targets for achieving good quality water; and*
- (c) Maintaining, from the dates specified in Schedule 15, good quality water; and*
- (d) Enhancing water quality where it does not meet Schedule 15 limits, to meet those limits by the date specified in the Schedule; and*
- (e) Recognising the differences in the effects and management of point and non-point source discharges; and*
- (f) Recognising discharge effects on groundwater; and*
- (g) Promoting the discharge of contaminants to land in preference to water.*

Schedule 15 outlines receiving water numerical standards and catchment timeframes for achieving good quality water.

Under this schedule, Lakes Waipori and Waihola is identified in Receiving Water Group 4.

The targets and timeframes for Lakes Waipori and Waihola are outlined in Table 6. The limits for Groups 4 are achieved when 80% of samples collected at a site, over a rolling 5-year period, meet or are better than the limits in Schedule 15. A target date of 31 March 2025 is set when the contaminant concentration does not meet the limit as at 31 March 2012.

Table 9: Schedule 15 targets and timeframes for the Lakes Waipori and Waihola. (Source: Schedule 15, Regional Plan: Water for Otago)

	Total nitrogen	Total phosphorus	Ammoniacal nitrogen	<i>Escherichia coli</i>	Turbidity
	0.55 mg/l	0.033 mg/l	0.1 mg/l	126 cfu/100 ml	5 NTU
Lake Waipori & Waihola	31 March 2025	31 March 2025	31 March 2012	31 March 2012	31 March 2025

A number of associated objectives and policies of the RPW direct to ensure that discharges do not result in the targets to be exceeded.

In the application AEE RCL noted that at that time available data from ORC monitoring at Lake Waihola between 2006 and 2011 showed that median E.coli., dissolved reactive phosphorus, ammoniacal nitrogen, nitrogen concentrations and turbidity.⁵ These figures are shown in Table 10.

The results of ORC water-quality monitoring undertaken between July 2015 and June 2020 and NIWA monitoring undertaken between January 2015 and December 2019 at Lake Waihola are also shown in Table 10. The figures in red show exceedances of the Schedule 15 limits.

Table 10: Comparison of Schedule 15 limits monitoring results from Lake Waihoa water quality monitoring 2015 – 2020 compared with Schedule 15 limits (Source: ORC⁶)

Schedule 15 limits	Total nitrogen	Total phosphorus	Ammoniacal nitrogen	<i>Escherichia coli</i>	Turbidity
	0.55 mg/l	0.033 mg/l	0.1 mg/l	126 cfu/100 ml	5 NTU
RCL ORC Data 2006-2011	0.49	0.046	0.009	30	7.8
ORC 2015-2020	0.69	0.058	0.027	225	11.9

Proposed conditions of consent require the discharge to meet relevant schedule 15 targets downstream of the discharge by 31 March 2025. It is noted that the conditions do provide an exception where the water quality exceedance was due to another source. Subject to this condition, the discharge is consistent with the Policy 7.B.1.

Policy 7.B.2 Avoid objectionable discharges of water or contaminants to maintain the natural and human use values, including Kāi Tahu values, of Otago lakes, rivers, wetlands, groundwater and open drains and water races that join them.

the discharge of human wastewater directly to water is objectionable to Kāi Tahu values. The proposal does not avoid this discharge and in the absence of the acceptance of Iwi I consider the proposal to be inconsistent with this policy.

⁵ Assessment of Environmental Effects, Table 4, RCL, 2015

⁶ <https://www.environmentcourt.govt.nz/assets/Documents/Publications/Water-quality-in-Otago-July-2015-to-June-2020.pdf>

Policy 7.B.6 *When assessing any consent to discharge contaminants to water, consider the need for and the extent of any zone for physical mixing, within which water will not meet the characteristics and limits described in Schedule 15, by taking account of:*

- (a) The sensitivity of the receiving environment; and*
- (b) The natural and human use values, including Kāi Tahu values; and*
- (c) The natural character of the water body; and*
- (d) The amenity values supported by the water body; and*
- (e) The physical processes acting on the area of discharge; and*
- (f) The particular discharge, including contaminant type, concentration and volume; and*
- (g) The provision of cost-effective community infrastructure; and*
- (h) Good quality water as described in Schedule 15.*

A mixing zone of 50 metres is proposed, which is based on the current compliance requirements of the existing discharge permit. This mixing zone is considered consistent with Policy 7.B.6.

Policy 7.C.1 *When considering applications for resource consents to discharge contaminants to water, to have regard to opportunities to enhance the existing water quality of the receiving water body at any location for which the existing water quality can be considered degraded in terms of its capacity to support its natural and human use values.*

I consider the current proposal is unlikely to enhance the receiving water body in the short term. My recommendation is for a short term consent at a rate of discharge that reflects current wastewater volumes and I would therefore consider the proposed situation to represent a maintenance of the status quo rather than enhancement. However, the quality of the discharge will be required to improve throughout the duration of the consent, specifically through meeting the relevant Schedule 15 targets by 31 March 2025. I think this option will require the Applicant to more rigorously test alternative options to manage increases in discharge and future upgrades will ensure enhancement in water quality.

Policy 7.C.2 *When considering applications for resource consents to discharge contaminants to water, or onto or into land in circumstances which may result in any contaminant entering water, to have regard to:*

- (a) The nature of the discharge and the sensitivity of the receiving environment to adverse effects;*
- (b) The financial implications, and the effects on the environment of the proposed method of discharge when compared with alternative means; and*
- (c) The current state of technical knowledge and the likelihood that the proposed method of discharge can be successfully applied.*

Policy 7.C.3 *When considering any resource consent to discharge a contaminant to water, to have regard to any relevant standards and guidelines in imposing conditions on the discharge consent.*

The discharge has been considered in accordance with Policy 7.C.2. The nature and sensitivity of the environment has been discussed in Section 6 of this report and assessment of effects on these values considered accordingly. The financial implications have been considered, based on the assessment provided in Section 4 of the AEE. The Applicant estimated the cost of land based

disposal as approximately twice the cost of the cost of upgrading the disposal to the Lake Waiholo Outlet Channel and on that basis did not consider the assessment further. The current state of technical knowledge has been considered. As noted, the Council is yet to identify standard/expectations for discharges of this nature, rather only the outcome sought (Schedule 15) has been identified. This is likely to occur during the duration of the consent and will be able to be accounted for in future upgrades.

The relevant standards have been considered. As noted, the discharge has been assessed against Schedule 15 which sets the current water quality outcomes for the receiving environment. The NZ Municipal Wastewater Monitoring Guidelines have been considered and recommended conditions have been proposed to ensure that monitoring is consistent with these guidelines.

Proposed Plan Change 8 (Discharge management) to the Regional Plan: Water for Otago (6 July 2020)

The Otago Regional Council notified Proposed Plan Change 8 to the Regional Plan: Water for Otago for submissions on 6 July 2020 and has immediate legal effect in accordance with section 86B(3) of the Act. Proposed Plan Change 8 amends existing, and introduces new provisions for:

- Managing, through enhanced policy direction, decision-making on stormwater, wastewater and rural discharges;
- Effluent storage and application to land through new minimum standards;
- Promoting good farming practices, including better managing contaminant loss from intensive grazing and stock access to water bodies as well as incentivising the use of small in-stream sediment traps;
- Improving management of sediment loss from earthworks for residential development, and
- Clarifying provision for nationally and regionally significant infrastructure in wetlands.

It is noted that this application was lodged prior to the notification of this Plan Change. Whilst the provisions in the Plan Change were proposed after the application was lodged and have not been subject to independent testing or decision making, they cannot be given full weight, however, in my opinion the provisions in the notified plan change should be given substantive weight for the following reasons:

- The new provisions are in accordance with Part 2 of the Act;
- Provisions give greater effective the higher order planning documents, in particular the NPS-FM and the PO-RPS; and
- The plan change reflects a substantive change to the Council's position on wastewater discharges.

No changes are proposed to Section 12.B Rules in relation to the discharge of human wastewater. New Policy 7.C.12 applies to discharges of human sewage:

7.C.12: Reduce the adverse effects of discharges of human sewage from reticulated wastewater systems by:

(a) Requiring reticulated wastewater systems to be designed, operated, maintained and monitored in accordance with recognised industry standards; and

(b) Requiring the implementation of measures to:

(i) Progressively reduce the frequency and volume of wet weather overflows; and

(ii) Minimise the likelihood of dry weather overflows occurring; and

- (c) Preferring discharges to land over discharges to water, unless adverse effects associated with a discharge to land are greater than a discharge to water; and*
(d) Having particular regard to any adverse effects on cultural values.

This policy provides specific direction to discharges from reticulated wastewater discharges. In relation to clause (a), the WWTP is not designed in accordance with current industry standards due to its age. However, through proposed conditions and the Applicants planned upgrade for this facility, this will be provided for in the longer term. Specifically, it is proposed that this is detailed through a condition requiring an “activity management plan” that requires upgrades to be undertaken to meet current and future water quality standards.

With regard to clause (b), the applicant is aware of the issues with wet weather events. While the discharges are unlikely to be reduced through the duration of this consent, they will be required to be reduced moving forward. There are no dry weather discharge events (overflows) associated with the proposal.

The proposed discharge is not to land, and it has not been established that the adverse effects of a discharge to land is greater than a discharge to water. I consider the Applicant will need to more rigorously assess the viability of land based disposal or other options to provide for medium to long term discharge volumes.

The Applicant has had regard to the adverse effects on cultural values in the AEE however I consider the evaluation to be relatively superficial given the significance of the receiving environment to Kāi Tahu and it does not appear to have involved any direct consultation with Iwi regarding their views.

Overall, I consider providing a short term consent for the continued discharge from the Waiholā STP will not reduce the adverse effects of the discharge of human sewage as it is largely inconsistent with Policy 7.C.12. However, I consider it is an interim measure necessary to manage this discharge in the short term while the Applicant undertakes robust planning of alternative options.

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

6.4.1 The Kai Tahu ki Otago Natural Resource Management Plan 2005

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

- To require land disposal for human effluent and other contaminants.
- Contaminants being discharged directly or indirectly to water are reduced.
- To require an assessment of instream values for all activities affecting water.
- To protect and restore the mauri of water.
- To encourage management plans for all discharge activities that details the procedure for containing spills and including plans for extraordinary events.

- To require monitoring of all discharges and that this be undertaken on a regular basis and all information, including an independent analysis of monitoring results, be made available to Kai Tahu ki Otago.
- To require visible signage informing people of the discharge area. Such signs are to be written in Maori as well as English.

It is noted the policy convention 'to oppose' that is used throughout the Kai Tahu ki Otago Natural Resource Management Plan 2005 means 'an activity or action that must not occur' in order to achieve the objectives of this Plan and protect Kai Tahu ki Otago values.

The proposal is inconsistent with the direction for disposal of human effluent to land and to reduce the discharge of contaminants directly to water. The proposed conditions include the use of management plans and monitoring.

Overall, I consider the application is inconsistent with key policies of the NRMP relating to discharges of waste to land and the protection of the mauri of the water.

6.4.3 Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1999

The Ngāi Tahu Freshwater Policy Statement 1999 (NTFP) is considered to be a relevant other matter for the consideration of this application because the RPW is yet to be amended to take into account the NTFP. The NTFP expresses the attitudes and values of Te Rūnanga o Ngāi Tahu

The following objectives and policies are of most relevance to this application:

6.2 – Mauri: To restore, maintain and protect the mauri of freshwater resources.

o Identify freshwater resources where:

- *Mauri is unaffected by modification and human activity so that these waterbodies can be afforded total protection; and*
- *Mauri is adversely affected, and the activities that cause such affects.*
- *Accord priority to ensuring the availability of sufficient quantities of water of appropriate water quality to restore, maintain and protect the mauri of a waterbody, in particular priority is to be accorded when developing water allocation regimes.*

The submissions of Iwi on this application indicate they consider the mauri of the receiving water is adversely affected by the proposal and the ongoing discharge of human wastewater does not maintain, restore or protect the mauri of the Lake Waiholā Outlet Channel.

It is considered that, overall, the application is not consistent with the objectives and policies of the NTFP.

7. Section 104(2A) Value of Investment

When considering an application affected by Section 124 of the Act, the Council must have regard to the value of the investment of the existing consent holder. The applicant has not provided specific evidence of the value of investment in the STP but discussed the potential cost of upgrading the existing plant against the cost of a land based disposal option at a relatively high level.

8. Section 124B Applications by Existing Holders of Resource Consents

The following criteria must be considered when a person who holds an existing resource consent makes an application to use a natural resource and that is affected by Section 124, and the consent authority receives one or more other applications to use some or all of the natural resource to which the existing consent relates, and that could not be exercised until the expiry of the existing consent.

The application affected by s124 is entitled to priority over any other application and the consent authority must determine that application before any other applications.

In order to make the determination of the application affected by s124, the consent authority must apply all the relevant provisions of this Act and the following criteria:

- (a) the efficiency of the person's use of the resource; and
- (b) the use of industry good practice by the person; and
- (c) if the person has been served with an enforcement order not later cancelled under section 321, or has been convicted of an offence under section 338,
 - (i) how many enforcement orders were served or convictions entered; and
 - (ii) how serious the enforcement orders or convictions were; and
 - (iii) how recently the enforcement orders were served or the convictions entered.

(a) The efficiency of the person's use of the resource

The resource in use is Lake Waihola Outlet Channel as a receiving body for the discharge. The discharge volume has consistently complied with maximum discharge volumes. It would be an inefficient use of the resource for the discharge to occur at greater volumes than is required and/or for untreated wet weather events to occur at greater frequencies. It is recommended that the proposed volume is reduced to reflect current discharge levels and recommended conditions will ensure that the discharge is effectively monitored and that any wet weather events are verified. The required volumes will be considered further for any longer-term discharge.

(b) The use of industry best practice by the person

In terms of industry best standard, the NZ Municipal Wastewater Monitoring Guidelines sets the current standards. This does not set the required quality of the discharge or the method but does set the monitoring requirements. The existing conditions do not reflect these guidelines. Proposed and recommended conditions would ensure that monitoring is in accordance with the Guidelines and improve understanding of the performance and effects of the discharge.

(c) if the person has been served with an enforcement order not later cancelled under section 321, or has been convicted of an offence under section 338,

- (i) how many enforcement orders were served or convictions entered; and***
- (ii) how serious the enforcement orders or convictions were; and***
- (iii) how recently the enforcement orders were served or the convictions entered.***

A review of the compliance records for Discharge Permit 2002.053 indicates there have been no enforcement orders or convictions made, albeit the Applicant has remained non-complaint with a number of conditions of consent as outlined in Section 2.7.

9. Sections 105 and 107

Section 105(1) states for a discharge permit that the Consent Authority shall have regard to:

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

Overall, the matters identified in Section 105(1) were considered in Sections 4 and 6 of this report. Based on the current evidence the proposed treatment and disposal system are considered the best option in the interim and will have no more than minor adverse environmental effects over the duration of the activity if the discharge volume sought is reduced to current levels and the duration of consent is relatively short.

Section 107(1) of the Act states that a discharge permit shall not be granted if, after reasonable mixing, the contaminant or water discharged is likely to give rise to all or any of the following effects in the receiving waters:

- The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material; or
- Any conspicuous change in the colour or visual clarity; or
- Any emission of objectionable odour; or
- The rendering of fresh water unsuitable for consumption by farm animals; or
- Any significant adverse effects on aquatic life.

Aquanet have considered the potential for the discharge to give rise to the above effects and consider there to be little risk at current discharge volumes. However, it is considered the effects of the discharge at the volumes sought may result in effects that are more than minor. Based on the evidence of Dr Greer I consider the effects of the discharge at the volumes sought remain uncertain and may contribute to cumulative effects in a sensitive waterway that could give rise to the effects identified in Section 107(1).

In summary, I do not consider consent can be granted in regards to the matters in s105(1) and 107(1) of the Act for the volume sought by the applicant.

10. Part 2 of the Act

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

Section 5 identifies the purpose of the RMA as the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being while sustaining those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

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

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

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

Where it is unclear from the planning documents whether consent should be granted or refused, and the consent authority has to exercise a judgment, Part 2 should be considered.

The RPW is yet to give effect to particular higher order documents, namely the NPS-FM and the PO-RPS or PRPS. It has also been indicated that a full review of the provisions will be undertaken in the coming years and water quality has been identified as one of the high priority issues to consider. While I do not identify specific incompleteness or coverage, I do consider it prudent that consideration is given to Part 2 of the Act for completeness. Assessment against the relevant provisions has therefore been provided below.

The proposal is consistent with the purpose and principles of the Act, as outlined in Section 5. Section 5 states that the purpose of the Act is to “to promote the sustainable management of natural and physical resources”. Sustainable management has two facets. The first aspect is “managing the use, development and protection of natural and physical resources in a way, or at a rate which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety”. In this respect, the concept of sustainable management is permissive. The purpose of the Act is achieved by allowing activities that benefit people. In this case the discharge permit will enable the ongoing management of wastewater for the Waiholo Community in the interim while a longer-term solution can be considered.

However, there is another aspect to sustainable management. The use, development and protection of resources are only allowed while:

- (a) “sustaining the potential of natural and physical resources, (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.”

Subject to recommended conditions of consent, the discharge should not compromise the ability of the Lake Waihola Outlet Channel to meet the needs of future generations or its life supporting capacity in the short duration of consent proposed.

Section 6 of the Act requires that in assessing the applications, the following matters of national importance are recognised and provided for:

- a) The preservation of the natural character of the coastal marine area, wetlands, and lakes and rivers and from inappropriate subdivision, use, and development:*
- c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
- e) The relationship of Maori and their culture and traditions sites, waahi tapu, and other taonga.*

Section 6 of the Act sets out those matters of national importance that are to be recognised and provided for in achieving the purpose of the Act.

Natural character has been considered in Section 6. While natural character will not be preserved, it is already being in a degraded state, and the discharge at the current level only causes a continued marginal and localised impact.

As outlined in Section 4, there are a number of native aquatic species present in the area including threatened species. As noted in Section 6, there has not been a noticeable impact on these habitats, further Aquanet have assessed that the potential effects are likely to remain no more than minor and conditions of consent have been proposed to ensure the monitoring of the state of the receiving environment is increased to provide a more accurate understanding of the effects of the activity.

Kāi Tahu representatives at a local and regional level have submitted in opposition to the proposal as a result of effects on the relationship of Maori to the subject area and associate values. On this basis I cannot conclude that this relationship has been adequately recognised or provided for.

Section 7 of the Act sets out those matters that have particular regard attributed to them in achieving the purpose of the Act. Matters relevant to the proposal under consideration are as follows:

- (a) kaitiakitanga and the ethic of stewardship;*
- (b) the efficient use and development of natural and physical resources;*
- (c) maintenance and enhancement of amenity values;*
- (f) maintenance and enhancement of the quality of the environment; and*
- (h) the protection of habitat for trout and salmon.*

In contrast to section 6, the matters set out in section 7 are not declared to be matters of national importance.

In respect of Kaitiakitanga, Iwi authorities were provided with the opportunity to exercise guardianship in regard to the natural and physical resources in the area.

Kāi Tahu are exercising Kaitiakitanga in their submissions in opposition to this proposal.

The efficient use of the natural resources, the maintenance and enhancement of amenity values and the maintenance and enhancement of the quality of the environment have been given particular regard to as outlined in Section 6.

Trout are present in the Lake Waihola Outlet Channel. As assessed the effects on trout habitat will be no more than minor throughout the duration of the consent.

Section 8 requires all persons acting under the Act to take into account the principles of the Treaty of Waitangi. I consider these values have been taken into account as outlined in my assessment against Policy 2.1.2 of the PO-RPS and the equivalent policies of the PRPS.

Overall, I consider the application as lodged is not consistent with Part 2 of the Act due to the uncertainty regarding the potential adverse effects from the volume of discharge sought. The assessment by Dr Greer indicates the effects of nutrients may be more than minor and due to the state of the receiving environment it is uncertain if it will safeguard the life supporting capacity of the environment or provide for the matters of national importance identified above.

12. Overall Recommendation

Under section 104B it is recommended that this consent application is granted, subject to a reduced volume of discharge for the following reasons:

- In the short term there is no alternative to dispose of the wastewater from the Waihola STP. I do not think this rationale is appropriate for anything beyond short term consideration but the practical implications of disposing of a constant waste stream needs to be addressed while these issues are resolved. I consider that as this is an interim measure the discharge volumes should reflect what will reasonably occur in this period rather than those intended to address growth over a longer time period.
- The applicant has proposed a shorter term of consent but has still sought the same discharge volumes as proposed for a 35 year term of consent. The potential for the community of Waihola to generate this volume of waste appears low, however the assessment of effects must assume that the discharge will occur at the level sought. If the discharge is not anticipated to occur at this level, then it is reasonable for the volume to be amended to one that will reflect the actual requirement.
- The environmental effects of the proposed volume of discharge are uncertain and in the opinion of the ORC's technical expert may be more than minor.
- The receiving environment includes values that are considered of national importance under s6(a),(c) and (e) that maybe adversely affected by the proposal
- The receiving environment is a culturally significant area for Kāi Tahu and inadequate consideration has been given to the potential adverse effects on tangata whenua.

- The long term discharge of human wastewater to water is inconsistent with the policy direction of the NPS-FM and the vision of the PRPS for this FMU.

However, in making this recommendation I again note that, setting aside cultural effects, at the current volumes discharged the potential effects on the environment are considered less than minor. An amended application which maintains the volume discharged at current levels for a reduced duration while alternative options are more rigorously investigated may be palatable to submitters, particularly, if it may remove the discharge to water, and in my mind may offer an interim solution.

- In accordance with an assessment under ss104(1)(a) and (ab) of the RMA, the actual and potential effects from the proposal are found to be unacceptable, because:
 - Although it has been accepted that the effects of the current discharges on water quality and ecological values are less than minor, the proposed increase in discharge volume may increase the nutrient loading on the Lake Waihola Outlet Channel and Lake Waihola itself.
 - The application did not include a thorough assessment of potential cultural effects on tangata whenua who have opposed the application on cultural and ecological grounds
- In accordance with an assessment under s104(1)(b) of the RMA, the proposal is found to be inconsistent with the relevant statutory documents, including the NPS-FM. For the following reasons:
 - The proposal is inconsistent with policy direction to avoid discharges of objectionable contaminants to water
 - The proposal is inconsistent with policy direction to protect Kāi Tahu values
 - The proposal is inconsistent with the direction to restore degraded waterbodies
- In accordance with an assessment under s104(1)(c) of the RMA the following other matters have been considered:
 - Kāi Tahu Natural Resource Management Plan for Otago
- The Council must not grant a resource consent if the application should have been notified and was not. The application was publicly notified
- An assessment against the values of Part II indicated the proposal was not consistent with the concept of sustainable development for the following reasons:
 - The assessment by Dr Greer indicates the effects of nutrients may be more than minor and due to the state of the receiving environment it is uncertain if it will safeguard the life supporting capacity of the environment or provide for the s 6 matters of national importance identified above.

13 Section 108 and 108AA of the Act

Should the decision maker wish to grant the application, the attached conditions on RM15.364 are recommended in accordance with Sections 108 and 108AA of the Act.

Conditions have been recommended including:

- Discharge quality and quantity limits that reflect what is proposed and has been occurring;
- Increase in frequency of monitoring the discharge and the receiving environment to ensure discharge quality is maintained and provide enough data to create a robust understanding of effects on the receiving environment
- Improvement in water quality prior to 31 March 2025 in order to meet the Schedule 15 targets;
- “Activity” management plan will be produced to provide for improvements to be made to meet current and future water quality standards throughout the duration of the consent. This includes annual reporting to Council on progress;
- Annual reporting of monitoring, water quality and volumes;
- Operations and maintenance manual to be prepared and adhered to;
- Informative signage;
- Conditions requiring avoidance of Section 107 effects; and
- Review clause.

A review clause is recommended due to the degraded state of the receiving environment and cumulative effects of nutrient loading into this environment.

The recommended condition in relation to the duration of discharge permit RM15.364, lapse date for RM15.364, and for a s128 review condition are discussed below.

The full set of recommended conditions is appended to this s42A recommendation (Appendix 1).

13.1 Term of Consent (Section 123)

The application seeks a term of 6 years.

Should the consent be granted it is considered that a duration of 6 years is appropriate. In reaching this recommendation the following relevant factors as distilled from case law have been considered:

- The duration of a resource consent should be decided in a manner which meets the RMA’s purpose of sustainable management;
- Whether adverse effects would be likely to increase or vary during the term of the consent;
- Whether there is an expectation that new information regarding mitigation would become available during the term of the consent;
- Whether the impact of the duration could hinder implementation of an integrated management plan (including a new plan);

- That conditions may be imposed requiring adoption of the best practicable option, requiring supply of information relating to the exercise of the consent, and requiring observance of minimum standards of quality in the receiving environment;
- Whether review conditions are able to control adverse effects;
- Whether the relevant plan addresses the question of the duration of a consent;
- The life expectancy of the asset for which consents are sought;
- Whether there was significant capital investment in the activity/asset; and
- Whether a particular period of duration would better achieve administrative efficiency.

In considering the term of consent, particular regard should be given to Section 5(1) in ensuring that “sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations”.

In this case, subject to a reduction in the volume of discharge, the effects is considered to cause a no more than minor adverse effect on water quality or ecological values and is generally consistent with the provisions of the current statutory provisions, with the exception of cultural effects on tangata whenua. The term is long enough to provide the applicant adequate time to undertake any necessary upgrades or fully investigate alternatives, while short enough to ensure that discharge does not give rise to long term adverse effects on ecosystem health.

The subject to limitations on the discharge volume sought, adverse effects are not likely to increase throughout the term, rather they will improve by requiring the Schedule 15 targets to be met by 31 March 2025.

The proposed duration will ensure alignment with the likely operative date of the forthcoming Land and Water Plan which will ensure integration with the new plan and can account for new information/standards.

A review clause is proposed, which can provide for a review of conditions throughout the duration of the consent.

I agree with the Applicant’s rationale for the proposed duration and consider that this will ensure adequate time for the Applicant to investigate and budget for long term upgrades while providing for the discharge to occur in the interim and incurring only minor and short-term adverse effects.

The alternative of upgrading now is not considered practical as this may not address the cultural issues of a discharge to water or the cumulative effects on nutrient loading on Lake Waiholā and surrounds. I note that the 7 years was initially proposed more than a year ago to align with 2027 being the likely operative date of the Land and Water Plan. As this is a principal reason for this duration, I recommend that the duration is reduced to 6 years.

13.3. Cancellation of Consent (Section 126)

Pursuant to section 126(1) of the RMA, the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years, unless expressly provided otherwise by the resource consent.

Policy 6.4.18 in the RPW provides for the council to cancel a resource consent if not exercised in the preceding 2 years.

An advice note is recommended to inform the applicant of the provisions under s126(2)(2)(b), including their appeal rights.

13.4 Review Condition (Section 128)

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

The reasons for this are:

- To deal with any adverse effect on the environment which may arise or potentially arise from the exercise of this consent and which it is appropriate to deal with at a later stage, in particular adverse effects on *(describe)*.
- In the case of a discharge permit to do something which would otherwise contravene section 15 or 15B of the RMA, to require the adoption of the best practicable option to remove or reduce any adverse effects on the environment, in particular adverse effects on *Lake Waihola or the outlet channel*.

Appendix 1: Recommended Conditions of Consent

Conditions

Specific

1. This consent authorises the discharge of treated human wastewater at a volume of up to 192 cubic metres per day into the outflow channel of Lake Waihola at the point shown in Map [X] attached as **Appendix 1** to this consent.
2. A discharge greater than the volume authorised by Condition 1 may occur only where:
 - (a) the discharge was as a result of a 1 in 10-year rainfall event or greater; and
 - (b) the discharge volume does not exceed 609 cubic metres per day.
For the purposes of verifying compliance with Condition 2 (a), the Consent Holder must identify rainfall recorded at the NIWA Dunedin Aero AWS (7339) weather monitoring station.
3.
 - (a) Effluent discharged from the treatment system must only be pumped into the Lake Waihola outflow channel during the latter half of the incoming tide and/or the initial half of the outgoing tide.
 - (b) Prior to the exercise of this consent the applicant must provide tidal information for the following six-month period.
 - (c) The consent holder must keep up-to-date forecasts of tidal flows at the point of discharge into the Lake Waihola channel
 - (d) Discharge volumes, times and tidal state at the time of discharge must be recorded and the information forwarded to the Consent authority at six-monthly intervals together with the monitoring required under Condition 5.
 - (e)

Performance Monitoring

4.
 - (a) The Consent Holder must ensure a discharge flow meter with an accuracy range of +/- 5% and datalogger records the wastewater volume discharged is installed. The flow meter and datalogger must record wastewater volumes discharged when the discharge is occurring.
 - (b) The Consent Holder must provide records from the datalogger to the Consent Authority at annual intervals by 31 March each year and at any time upon request. Data must be provided electronically giving the date, time and flow rates in no more than 15-minute increments and the datalogger downloaded annually and sent to Council by 31 March in each year.
 - (c) The Consent Holder must provide written verification to the Consent Authority that the discharge flow meter has been verified as accurate by a suitably qualified person by 31 March of the first year of the exercise of this consent and then at five-yearly intervals thereafter.
5. Surface water and discharge quality monitoring must be undertaken by a suitably qualified professional throughout the duration of the consent.

Samples must be collected monthly and must be undertaken at the following locations on the same day:

- (a) The treated wastewater from the outfall prior to its discharge into the outflow channel of Lake Waihola;
- (b) If more than one discharge point exists monitoring must be undertaken from both discharge points and each point identified;
- (c) the outflow channel of Lake Waihola, no more than 50 metres upstream of the discharge point; and
- (d) the outflow channel of Lake Waihola, no more than 50 metres downstream of the discharge.

At the time of sampling the flow rate and water depth, field measurements of pH, temperature, turbidity, electric conductivity, dissolved oxygen (DO) and in-stream visual clarity (measured through black disk) must be recorded. Analysis of surface water and discharge samples must be undertaken for the following parameters:

Parameter
Temperature
pH
5-day iv) Carbonaceous Biochemical Oxygen Demand (BOD ₅)
Total suspended solids (TSS)
Total Nitrogen (TN)
Total Ammonia-Nitrogen (NH _{4-N})
Total nitrate+nitrite nitrogen (NNN)
Dissolved inorganic nitrogen (DIN)
Total phosphorous (TP)
Dissolved reactive phosphorous (DRP)
Particulate Organic Matter
Faecal Coliforms (FC)
Escherichia coli (<i>E.coli</i>)

6. The quality of treated wastewater immediately before it is discharged to outflow channel of Lake Waihola must:

(a) Not exceed any standard specified below:

Parameter	Units	Samples must not exceed Median limits in more than 8 out of 12 consecutive samples	Samples must not exceed 95 th percentile limits in more than 2 out of 12 consecutive samples

5-day iv) Carbonaceous Biochemical Oxygen Demand (BOD ₅)	g/m ³	75	140
Total Suspended Solids (TSS)	g/m ³	100	175
Escherichia coli (<i>E.coli</i>)	cfu/100mL	80,000	315,000
Total ammoniacal nitrogen (NH _{4-N})	g/m ³	23	31
Total phosphorus (TP)	g/m ³	5.7	7.7

- (b) Be within the pH range of 6.5 – 9.0.
 - (c) Be no less 2 g/m³ of Dissolved Oxygen as an average of any five consecutive weekly measurements taken at approximately 9.00 am.
7. The following monitoring parameters must be used to assist with assessing the effects of the wastewater discharge to the outflow channel of Lake Waihola:
- (a) The discharge must not cause the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - (b) The discharge must not cause bacterial and / or fungal slime growths visible to the naked eye as plumose growths or mats;
 - (c) The visual clarity must not be reduced by more than 30% between upstream and downstream of the discharge;
 - (d) The QMCI must not be reduced by more than 20% between upstream and downstream of the discharge; and
 - (e) The maximum cover of visible streambed of periphyton as filamentous algae more than 2cm long should not exceed 30%.
8. From the 31st of March 2025 samples of receiving water taken from the outflow channel of Lake Waihola in accordance with Condition 5 must be monitored against exceedances of the following standards when calculated over a rolling five-year period:
- (a) The 80th percentile for Total nitrogen (TN) concentrations should not exceed 0.55 g/m³; and
 - (b) The 80th percentile for dissolved reactive phosphorous concentrations should not exceed 0.033 mg/L; and
 - (c) The 80th percentile for ammoniacal nitrogen concentrations should not exceed 0.1 mg/L; and
 - (d) The 80th percentile for Escherichia coli (*E.coli*) should not exceed 126 cfu/ 100 ml; and
 - (e) The 80th percentile for turbidity should not exceed 5 NTU.
9. In the event of 1 (one) or more of the limits set out in Conditions 2 or 6 being exceeded, the Consent Holder must resample and/or retest that parameter within 5 (five) working days to confirm the exceedance. In circumstances where one or more of the limits set out in Condition 6 are exceeded on two consecutive sampling

occasions and these results are confirmed exceedances (i.e. it is not due to faulty testing or other parameters affecting the results) or an effect outlined in Condition 7 is caused, the Consent Holder must report to the Consent Authority as follows:

- (a) The Consent Authority must be notified in writing within 48 hours of any confirmed non-compliance; and
- (b) This notification must include advice of any corrective actions taken by the Consent Holder;
- (c) An incident report must be provided to the Consent Authority in writing within 20 working days of the notification of the exceedance. This report must include:
 - (i) identification of the likely cause of the limit exceedance;
 - (ii) the resulting effects on the receiving environment likely to arise because of the limit exceedance;
 - (iii) the management responses undertaken, or which may be necessary to prevent any further limit exceedances occurring;
 - (iv) remedial action undertaken or which may be necessary and confirmation of implementation if it is within scope of the consent.

10. Should any of the limits set out in Condition 8 be exceeded, the Consent Holder must prepare a report by a suitably qualified individual within 20 (twenty) working days of the first exceedance of the limits that were assessed identifying:
 - (a) why the limits have not been met;
 - (b) actions to be taken to ensure targets are met;
 - (c) the actual and potential adverse effects the discharge is causing on water quality; and
 - (d) if there has been improvement in the discharge quality since the commencement of the consent.

The report must be provided to the Consent Authority within 5 (five) working days of its completion for certification that clauses (a)-(d) have been fulfilled. The Consent Holder must adhere to any actions outlined under clause (b).

11. (a) Within three months of the commencement of this consent, the Consent Holder must prepare an Operations and Maintenance Manual for treatment and disposal system with the objective of ensuring the effective and efficient operation of the Waiholo Wastewater Treatment Plant at all times. The Operations and Maintenance Manual must include, but is not limited to:
 - (i) a brief description of the treatment system, including a detailed site map indicating the location of the treatment system, discharge location, sampling and monitoring sites;
 - (ii) key operational matters, including the detailed monthly maintenance checks and a schedule of system maintenance;
 - (iii) details around the methodology of providing accurate tidal information to determine discharge times as required by Condition 3;
 - (iv) monitoring requirements and procedures, including discharge rates, volumes and limits to be complied with and reporting procedures;
 - (v) contingency plans for response to non-compliance with this discharge permit or system malfunctions or breakdowns;

- (vi) the means of receiving and dealing with any complaints and system malfunctions;
 - (vii) Key personnel, contact details and emergency phone numbers.
 - (b) The Consent Holder must provide a copy of the Operations and Maintenance Manual within 5 (five) working days of its completion for certification that the objective and minimum details have been fulfilled.
 - (c) The Consent Holder must adhere to the certified Operations and Maintenance Manual at all times.
 - (d) Should changes to the Operations and Management Manual be required, the Consent Holder must provide the updated version to the Consent Authority on request.
13. Records of maintenance, complaints, malfunctions and breakdowns must be kept in a log and this log must be submitted along with the report required under Condition 14 to the Consent Authority by 31 March each year, and upon request.
14. Before the first anniversary of the exercise of this consent and by 31 March in each year thereafter, an annual monitoring report must be prepared relating to the activities authorised by this consent over the preceding 12-month period. This report must be prepared by a suitably qualified person and must include, but not be limited to:
- (a) Flow monitoring records required by Condition 3;
 - (b) A record of any discharges that exceeded the discharge volume limit as set in Condition 1 and verification that the event meets the criteria set out in Condition 2;
 - (c) Discharge flow monitoring records providing detail of the timing of discharge in relation to tidal flows at the point of discharge
 - (d) A summary of all sampling and analysis undertaken under this consent in the previous 12-month period and an assessment of compliance with limits set by Conditions 6 and the Schedule 15 targets in Condition 8
 - (e) Analysis of surface water quality monitoring and the difference in water quality upstream and downstream of the discharge required by Conditions 5;
 - (f) An overview of compliance with the requirements of the Operations and Maintenance Manual
 - (g) Overview of compliance with all conditions of this consent;
 - (h) Recommendations for improvements in the system;
 - (i) Maintenance service records and malfunctions or breakdowns and the corrective action taken;
 - (j) Any complaints received and action taken; and
 - (k) Confirmation of funding to ensure any upgrades are adhered to in accordance with Condition 15.
15. (a) Within the first year of the exercise of this consent, the Consent Holder must prepare an Activity Management Plan. The Activity Management Plan must be prepared by a suitably qualified individual and have the following objectives:
- (i) To ensure improvement in the discharge quality throughout the duration of the consent; and

- (ii) To ensure the discharge will meet current and future water quality standards past 2027.
- (b) The Activity Management Plan must include, but is not limited to:
 - (i) Proposed upgrades to the current wastewater treatment plant throughout the duration of the consent;
 - (ii) Consideration of alternative discharge methods;
 - (iii) Timing for any proposed upgrades;
 - (iv) The budgeting required to fund proposed upgrades both in the short term and long term; and
 - (v) Analysis of how upgrades will ensure the objectives of the Activity Management Plan will be met.
- (c) The Consent Holder must provide the Activity Management Plan to the Consent Authority within 5 (five) working days of its completion for certification that the objectives have been met as specified in Condition 15(a).
- (d) The Consent Holder must adhere to the Activity Management Plan that has been certified by the Consent Authority in accordance with Condition 15(c).

General

- 16. The Consent Holder must erect and maintain suitable signage that can be visible and read at a distance of no less than 5 (five) metres adjacent and downstream of the outfall that warns public of the discharge. Signage must display warnings in both English and Te Reo.

Review

- 17. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve three months notice on the Consent Holder of its intention to review the conditions for the purpose of:
 - (a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;
 - (b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
 - (c) Reviewing the frequency of monitoring or reporting required under this consent to ensure consent requirements are being met;
 - (d) Amending the monitoring programme set out in accordance with Condition 5; or
 - (e) Requiring the Consent Holder to adopt the best practicable option, in order to prevent or minimise any adverse effect on the environment arising as a result of the exercise of this consent.

Appendix 2: Evidence by Dr Michael Greer, Aquanet