

Consent Evaluation Report

Applicant: Thames Coromandel District Council **File No.:** 60 25 05A
Address of Site: Pa Rd, Hahei (Hahei WWTP) **Project Code:** RC4766
Application Number: APP135636

1 Introduction

Thames Coromandel District Council (TCDC) own and operate the Hahei Wastewater Treatment Plant (WWTP), which provides treatment and disposal of wastewater for part of the Hahei community. On 30 June 2015 TCDC applied for the following resource consent:

Application No	Purpose	Location
AUTH135636.01.01	Discharge of treated wastewater to the Wigmore Stream and associated seepage to groundwater	Pa Rd - Hahei

This application is to replace existing consent AUTH117888, which expired on 31 December 2015. The application was lodged within six months of expiry.

The application document references are as follows:

- Application for resource consent. Waikato Regional Council document 3442348.
- Letter from Harrison Grierson (the applicant's consultant) dated 21 March 2017, titled "Water quality and ecological effects of the discharge from the Hahei WWTP to the Wigmore Stream". Received via email on 18 April 2017. Waikato Regional Council document 10373921.
- Letter from Harrison Grierson dated 12 May 2017, titled "Hahei WWTP resource consent application". Received via email on 12 May 2017. Waikato Regional Council document 10487506.
- Technical memo from Harrison Grierson dated 14 June 2017, titled "Hahei WWTP Consent – Ammoniacal Nitrogen Reduction". Received via email from TCDC dated 14 June 2017. Waikato Regional Council document 10628287 (memo) and 10629575 (email).

2 Background and Description of Proposal

The Hahei WWTP is located at 20 Pa Road, Hahei. It is bordered by farmland to the south, privately owned residential properties to the west and north, and the Wigmore Stream to the east. Part of the site has recently been tar sealed and is utilised as 'Park and Ride' carparking for visitors to Cathedral Cove. The location of the WWTP and key features around the site are shown on Figure 1.

The WWTP services up to 25% of residential properties and the Hahei Holiday Park (campground), with the remainder of properties in Hahei serviced by private on-site wastewater treatment systems. The applicant has applied for resource consent to discharge up to 700 cubic metres per day (m³/day) of treated wastewater to the Wigmore Stream. This volume remains unchanged from the volume authorised by expired consent AUTH117888. Current flows to the WWTP are 92 m³/day off-peak average and 312 m³/day peak period maximum, and are projected to increase over the next 30 years to 109 m³/day off-peak average and 392 m³/day peak period maximum.

The WWTP uses an "oxidation pond" treatment system to provide aerobic breakdown of contaminants. There is an aeration pond and a retention pond. Raw effluent enters the plant from the Pa Road pump

station, where it is discharged directly to the aeration pond without primary screening. There is a single operational aerator in the aeration pond and another in the retention pond. The retention pond has baffle curtains installed to minimise short-circuiting between the inlet and outlet. Together, the two ponds have a total retention time of 55 days, however this decreases to 20-23 days during the summer peak.

A membrane filtration unit (MFU) was retrofitted to the existing pond system in January 2007. It was installed to address water quality issues in the Wigmore Stream associated with use of the former land disposal beds and poor discharge quality. The MFU is a membrane filter that sits inside a tank in a portable shipping container on site. It operates by filtering wastewater from the retention pond and capturing solids and pathogens before discharging the treated wastewater directly to the Wigmore Stream. The MFU is periodically backwashed and the sludge is recycled back to the retention pond.

The discharge to the Wigmore Stream from the MFU is via a perforated pipe diffuser secured parallel to the stream bank. The Wigmore Stream is a small, soft-bottomed, slow-flowing waterway that is tidal influenced. The 3.3 km² catchment is predominantly grazed pasture, with residential areas in the lower reaches in proximity to the WWTP. The mouth of the stream is at the south-eastern end of Hahei Beach, approximately 1 km downstream of the WWTP discharge outlet.



Figure 1. Hahei WWTP and surrounding environment.

3 Status of Activities under the Plans

The discharge of treated wastewater to the Wigmore Stream and associated seepage to groundwater is a **discretionary activity** under Rule 3.5.4.5 of the Waikato Regional Plan, as follows:

3.5.4.5 Discretionary Activity Rule – Discharges – General Rule

*Any discharge of a contaminant into water, or onto or into land, in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water, that is not specifically provided for by any rule, or does not meet the conditions of a permitted or a controlled activity rule in this Plan, is a **discretionary activity** (requiring resource consent).*

4 Consultation/Affected Party Approvals

4.1 Prior to notification

4.1.1 Iwi

The activity occurs in the rohe (area) of Hauraki iwi, specifically Ngati Hei, Ngati Maru, Ngati Tamatera, and Ngati Hako.

The applicant did not consult with iwi prior to lodgement of the application. The applicant stated in the application that they would undertake consultation with iwi and other key stakeholders coinciding with notification of the application.

4.1.2 Other Parties

The applicant has undertaken consultation with Mr John North, a resident in Hahei with an active interest in safeguarding the quality of the Wigmore Stream. This consultation involved collaboration with Mr North to undertake additional bacteriological sampling of the stream during the 2015/16 summer (document 3934003), and provision of the consultant's s.92 response letter dated 21 March 2017 (document 10373921). Mr North was a submitter during the consent process for resource consent AUTH117888. Condition 17 of resource consent AUTH117888 requires TCDC to seek comment from Mr North and Mr Ron Egan, another Hahei resident and submitter, prior to making any changes to the monitoring program specified in the conditions of consent.

Mr North has stated in a letter to WRC dated 8 May 2017 (document 10955212), that *“the Hahei Waste Treatment effluent disposal transformation from soakage/evaporation beds to filtration has resulted in a quantum improvement to both plant performance and community confidence that the Hahei waste treatment plant is no longer having a negative impact on the stream (Bacteriological)”*.

In addition to Mr North, Waikato Regional Council were also consulted during the application development process.

The applicant has not consulted with any other parties. As noted above, the applicant stated in the application that they would undertake consultation with affected parties and key stakeholders during the notification period of the existing consent.

4.2 Reasons for Notification

In a process completed prior and separate to the writing of this report it was considered appropriate that the application be processed on a limited notification basis. This decision was made based on the environmental effects considered to be no more than minor, and the identification of potentially affected parties.

4.3 Notification and Submissions

Limited notification of the application to adjacent landowners, iwi, Mercury Bay Community Board and the Waikato District Health Board occurred on 12 July 2017. Due to an administrative oversight, some of these parties were not notified on this date. An updated letter was sent to all parties on 25 July 2017, with a revised closing date for submissions of 24 August 2017.

No submissions were received during the notification period.

4.4 Consultation following notification

The applicant did not undertake any consultation during the period of notification.

On the basis that no submissions were received, and with agreement from the applicant on the proposed conditions of consent, in accordance with section 100 of the Resource Management Act 1991 the consent process can be determined without the need to hold a hearing.

5 Process Matters

The significant process matters are summarised below:

Date	Process Detail
30/06/2015	Application lodged and deemed complete under section 88 of the Resource Management Act 1991 (RMA)
1/07/2015 to 5/07/2015	Active, 3 working days
6/07/2015 to 26/06/2017	Processing timeframe placed on hold under section 92(2) – commissioning of a report
27/06/2017 to 11/07/2017	Active, 11 working days
12/7/2017 to 24/08/2017	Limited notification
25/08/2016 to 31/08/2017	Active, 5 working days
1/09/2017 to 7/12/2017	Processing timeframe extended under section 37A(5)(a) – review of draft conditions

6 Statutory Considerations

Section 104 of the Resource Management Act 1991 (RMA) outlines the matters that a consent authority must have regard to when considering the outcome of a resource consent application. Matters that are relevant to this application are discussed below.

6.1 Assessment of Environmental Effect

Section 104(1)(a) provides that when considering a consent application the consent authority must, subject to Part 2 of the RMA, have regard to the actual and potential effects on the environment of allowing the activity. Case law has determined that the “environment” must be read as the environment which exists at the time of the assessment and as the environment may be in the future as modified by the utilisation of permitted activities under the plan and by the exercise of existing resource consents.

6.1.1 Existing environment

The receiving environment is the Wigmore Stream. The stream is a soft-bottomed, slow-flowing waterway that is tidal influenced. The saltwater interface can extend to the monitoring site upstream of

the WWTP discharge outlet (see Figure 1). The stream is popular for recreational use, and is classified under the Waikato Regional Plan (Chapter 3.2.3) as a Surface Water and Contact Recreation water body.

The Wigmore Stream is currently monitored under the conditions of existing consent AUTH117888 for water level and instantaneous flow, upstream and downstream water quality, and aquatic ecology. Water quality measurements summarised in the applicant's Assessment of Environmental Effect (AEE) show elevated temperature, pH, turbidity and suspended solids, nutrients and faecal bacteria, and low dissolved oxygen both upstream and/or downstream of the WWTP discharge compared to National Objectives Framework¹ and Waikato Regional Council guideline values. Comparison of elevated parameters in the stream to the quality of the treated wastewater (discussed further below) suggests that these parameters can be partly attributed to other contaminant sources in the stream. It is generally accepted that these other discharge sources include sediment runoff, stormwater and septic tank contamination.

The stream has observed fish and invertebrate species classed as "at risk" or "threatened" including Inanga and Longfin Eel, and is a likely habitat of some "at risk" or "threatened" birds including Northern New Zealand Dotterel, Variable Oystercatcher, Red-Billed Gull, and Black Shag.

Section 104(2) of the RMA provides that when forming an opinion about the actual and potential effects of the activity, the consent holder may disregard an adverse effect of the activity on the environment if the regional plan permits an activity with that effect. In this case, no permitted baseline effects have been discounted from the following assessment of effects of the activity.

In my assessment of the application, I have considered the possible environmental effects of the proposed discharge via the outfall structure or seepage to groundwater from the ponds on:

- Hydrology,
- Water quality of Wigmore Stream,
- Aquatic ecosystems,
- Groundwater quality.

6.1.2 Hydrology

The one in five year low flow (Q_5) of the Wigmore Stream was estimated by Waikato Regional Council's hydrologist Dr Edmund Brown as 3 litres per second (L/s), as part of the previous evaluation report for consent AUTH117888. When compared to the maximum consented discharge rate of 8.1 L/s of treated wastewater to the stream, there is potential during summer low flow periods for the volume of wastewater in the stream to be nearly three times greater than the volume of freshwater. This has implications for the level of dilution and zone of reasonable mixing, with subsequent potential adverse effects on water quality and aquatic ecosystems.

The applicant has assessed nutrient loads to the stream for a range of flow and discharge scenarios. The worst-case scenario used in the application (Q_5 low flow of 3 L/s, peak (measured) discharge flow of 2.8 L/s, and peak ammoniacal-nitrogen concentrations in the discharge), compared to actual stream monitoring data, indicates that a mass balance approach overestimates the downstream concentrations in the stream. The applicant concluded that there are other influences on the stream reducing the contaminant concentrations, such as dilution from seawater. The applicant comments that the frequency of the low flow period where the worst-case mass balance scenario could occur is thought to be very infrequent as:

- The driest month (in terms of rainfall) is typically February, which is outside the peak period of discharge (27th December to 5th January);
- The stream flow is tidal influenced and therefore the lowest flow period is likely to occur for only a small period of the day at low tide;

¹ National Policy Statement for Freshwater Management 2014

- The Q_5 is, by definition, a one in five year low flow, which does not occur every year.

I am also of the opinion that the likelihood of occurrence of this extreme scenario is low. I consider that consent limits around the discharge quality and discharge rates will minimise potential adverse effects on the stream during low flow conditions. With regards to the mass balance calculations, I note that the peak discharge flow has been based on 2.8 L/s which is less than the maximum consented discharge rate of 8.1 L/s. There is thus potential for the mass balance calculations to require reassessment in future following an increase in actual discharge rates.

As part of the conditions for AUTH117888, TCDC were required to install a flow recorder upstream of the WWTP discharge on the Wigmore Stream and to correlate the flow record from the stream to flows in the Opiitonui River. The purpose of this monitoring was to provide information to understand stream flows in relation to low flow events and frequency, and to allow calculation of dilution factors. TCDC collected flow data from a temporary weir installed approximately 550 metres upstream of the WWTP over the period January 2015 to April 2017, and provided Council with a flow correlation to the Opiitonui River for Waikato Regional Council approval (document 10630455). The derived correlations (one for low flows and one for high flows) had an associated error of $\pm 30\%$, and the applicant's consultant, Jacobs New Zealand Ltd, recommended that monitoring continue in the short term to enable the regression model to be further validated and/or refined.

The flow correlation was reviewed by Waikato Regional Council hydrologists Dr Sung Soo Koh and Mr Doug Stewart. Dr Koh commented that the Jacob's model appears to overestimate Q_5 and mean daily flow compared to other analysis methods, and so, for the flow correlation model to be used to calculate daily mean flow and dilution factors in the Wigmore Stream it is recommended that an additional summer season of monitoring be undertaken for model validation (document 11015479 and 10757849). Dr Koh advised that, despite the collection of additional data to validate the model, the correlation will still have a moderate level of uncertainty due to climatic differences between the two sites. Mr Stewart recommended including spot stream flow gauging to check the weir calibration (document 11014996).

I note that the existing consent to install and use a temporary weir in the Wigmore Stream for the purposes of flow monitoring has expired (AUTH121137), and I am aware that TCDC has been approached by the landowner to request that the weir be removed to enable them to undertake fencing and riparian planting on their property.

If possible, I consider that flow monitoring should continue at this site for the upcoming summer season, to maximise the potential use of the flow data collected to date. I recommend a condition of consent requiring monitoring of stream flow for a minimum period of six months, to enable validation of the flow regression model for assessment of future contaminant dilution factors in the Wigmore Stream. In addition to recording flow at 15 minute intervals, the consent holder should also undertake spot flow gauging for verification of the weir flow data. Once the updated flow correlation data is provided to Waikato Regional Council, the necessity for continued flow monitoring can be reviewed.

I have considered whether an alternative method and location of flow monitoring would suffice, e.g. spot flow gauging only at a point further downstream near the WWTP discharge site, however this data would be within the zone of tidal influence. This would result in variable flow speeds and direction, which would complicate analysis of the flow data. This was the reasoning behind the current location of the weir.

6.1.3 Water quality of Wigmore Stream

The applicant has summarised potential water quality effects in Section 9.2.2 and Appendix 2 of the AEE. Waikato Regional Council scientist, Mr Bill Vant, has reviewed this information and commented on the key parameters of concern. His comments are recorded in document 3465637, 10546985 and 10671807. Responses to questions raised by Mr Vant in document 3465637 have been addressed by the applicant in documents 10487506 and 10628287.

The key parameters highlighted by Mr Vant in his review include dissolved oxygen, ammoniacal nitrogen, turbidity/suspended solids and *E. coli*.

Depletion of dissolved oxygen

Dissolved oxygen in the stream has been measured by the applicant's consultant (Kessels Ecology) using point measurements every four months from March 2010 to March 2015 during ecological surveys. The Kessels report (Appendix 2 of the AEE) states that measurements from both upstream and downstream sites in the Wigmore Stream are often below 80% saturation, and below the 4 mg/L National Objectives Framework bottom line (1-day minimum) guideline at both sites on several occasions, most notably during March surveys. On average, dissolved oxygen concentrations were 0.48% higher at the downstream site than the upstream monitoring site.

The applicant has also reviewed monthly Biochemical Oxygen Demand results in the stream and the WWTP discharge measured as a condition of consent by the WWTP operators. The average Carbonaceous Biochemical Oxygen Demand (cBOD₅) measured on a monthly basis in the WWTP discharge was 6 g/m³ (Table 19 of Appendix 2 in the AEE), while the 95th percentile upstream concentration was 3 g/m³ and the downstream concentration was 2 g/m³ (Table 7 of Appendix 2 in the AEE). While the applicant has not been able to pinpoint the source of the differences between upstream and downstream cBOD₅ and dissolved oxygen measurements, the application states that the results do not suggest an effect on dissolved oxygen concentrations from the WWTP discharge, and that low dissolved oxygen concentrations in the stream are due to wider catchment influences.

Mr Bill Vant agrees with the explanation provided by the applicant for the low levels of dissolved oxygen in the Wigmore Stream (refer document 10546985).

Elevated concentrations of ammoniacal-nitrogen

Ammoniacal nitrogen concentrations in the WWTP discharge is summarised in Figure 9 of the AEE and document 10628287. The WWTP generally achieves a high level of nitrification prior to discharge (i.e. average AmmN levels of <5 g/m³), however during peak periods with high wastewater inflow the WWTP struggles to maintain the same level of treatment. The running average during peak periods increases up to 15 g/m³ and the 90th percentile to 35 g/m³.

Mr Vant considers that the elevated ammoniacal nitrogen has potential to have adverse effects on the Wigmore Stream. Refer document 3465637.

The applicant's consultant (Harrison Grierson) has identified a number of upgrade options for the WWTP to increase the effective aeration of the wastewater, allowing for greater nitrification (document 10628287). They have undertaken calculations to determine the additional aeration required during the peak season to reduce ammoniacal nitrogen levels to ≤10 g/m³ (running average) and ≤15 g/m³ (90th percentile). These options include:

- Replacement of the existing axial aerator in the aeration pond with a new 4kW diffused aerator;
- Installation of an additional 4kW diffused aerator in the aeration pond;
- Installation of a baffle curtain in the aeration pond to reduce short-circuiting between the inlet and outlet;
- Rerouting of the MFU backwash to the inlet of the aeration pond to ensure adequate aeration of the concentrated waste and reduce the chance of direct recycling back into the MFU.

In addition to the recommended upgrades, some enabling works may also be required, including:

- Installation of a 100 kVA transformer to increase capacity at the plant;
- Upgrade of the switchboard and integration of a SCADA monitoring system.

Further supporting upgrades that may improve the quality of the discharge include:

- Desludging of the aeration pond. The WWTP operators undertook a sludge survey in 2016 that indicated there is 530 m³ of sludge in the aeration pond (approximately 25% of the total volume) and 820 m³ of sludge in the retention pond (approximately 25% of the total volume). Desludging will assist with increasing hydraulic retention times and correct placement of baffle curtains.
- Inlet screening to remove gross solids from the raw wastewater and reduce sludge build-up in the pond.

TCDC have confirmed that they intend to address additional aeration, a baffle curtain, inlet screening, power inadequacies, and SCADA monitoring as part of their 2017/18 Capital Works program (document 10629575). Desludging of the ponds will occur at a later date dependent on the effectiveness of the other upgrades on improving wastewater discharge quality. TCDC propose a reduced consent limit for ammoniacal nitrogen to ≤10 g/m³ (running average) and ≤15 g/m³ (90th percentile).

Mr Vant has reviewed the applicant's revised discharge limits for ammoniacal nitrogen. This assessment is included in document 10671807. Mr Vant comments that *"historic concentrations of ammoniacal-N in the area downstream of the discharge had been as high as "greater than 2 g/m³" (although they were typically lower than this). If we assume that these elevated concentrations were associated with the discharge of wastewater to the stream, then the proposed reduction to the consent limits would be likely to mean that concentrations of this magnitude in the stream would become increasingly rare in the future. As a result, concentrations of ammoniacal-N downstream of the discharge point would be unlikely to exceed the national bottom line of the National Policy Statement for Freshwater Management 2014, namely 2.2 g/m³."* Mr Vant concludes *"I therefore consider that the proposed new consent limits for ammoniacal-N of June 2017 would be likely to mean that any adverse ecological effects of the discharge of this contaminant to the Wigmore Stream would be small."*

On the basis of TCDC's proposed reduction in the ammoniacal nitrogen discharge limits and Mr Vant's technical comment with regards to the potential effect on the stream, I consider that the potential adverse effects of the discharge of this contaminant to the Wigmore Stream will be no more than minor. I recommend conditions of consent requiring the proposed upgrades to be undertaken within the specified timeframe and discharge limits of 10 g/m³ (running average) and 15 g/m³ (90th percentile). I also recommend a condition of consent requiring future upgrades, such as desludging, be considered at a later date after review of monitoring data and the effectiveness of treatment over time.

With the proposed reduction in ammoniacal nitrogen concentrations, there will also be an associated reduction in organic nitrogen concentrations. The existing consented discharge limit in AUTH117888 for Total Kjeldahl Nitrogen (TKN), of which organic nitrogen is measured as a component of, is the same as Total Ammoniacal Nitrogen at 15 g/m³ (running average) and 40 g/m³ (90th percentile). TCDC has proposed a reduction in the TKN discharge limit of 15 g/m³ (running average) and 20 g/m³ (90th percentile) to allow for organic nitrogen (document 11367735). Mr Bill Vant agrees with this proposal (document 11368436). I therefore recommend a consent discharge limit to reflect these reduced TKN discharge limits.

Phosphorus

Mr Vant comments that *"at times of low dilution the discharge is likely to substantially increase the total P concentration in the stream"* (document 3465637). In response, the applicant has noted the high upstream phosphorus concentrations and commented that the frequency of occurrence for a low flow/low dilution situation is very low. Mr Vant has accepted this explanation.

Elevated Turbidity and Suspended Solids

Suspended solids and turbidity measurements are elevated in the stream, including at the upstream monitoring site. After comparison to the quality of the treated wastewater, both the applicant and Mr Bill Vant attribute these elevated background concentrations in the stream to soil erosion within the catchment.

Bacteria

Similar to above, the Wigmore Stream has elevated background concentrations of *E.coli* and *Enterococci* that has been attributed to other sources.

6.1.4 Aquatic ecosystems

The effects of the wastewater discharge on aquatic ecosystems are summarised in the AEE (Appendix 2) and the applicant's response to technical review comments (document 10487506). Mr Vant agrees with the applicant's conclusion that effects on aquatic ecosystems from the discharge will be no more than minor.

Based on TCDC's proposed reduction in the ammoniacal nitrogen discharge limits and Mr Vant's technical comment with regards to the potential effect on the stream, I consider that the potential adverse effects of the discharge on aquatic ecosystems will be no more than minor.

6.1.5 Groundwater quality

The aeration and retention ponds are clay lined. The applicant has stated that the effects of groundwater seepage from the ponds on underlying soils and groundwater quality is expected to be less than minor. While no data has been provided to confirm existing soil or groundwater quality, the applicant considers that any effects from groundwater seepage on groundwater quality is captured within the ecological monitoring of the Wigmore Stream.

There are existing groundwater take abstractions located downgradient, i.e. seaward side, of the WWTP. The Hahei community water supply bores are the nearest abstraction bores, located approximately 275 m from the WWTP ponds on the opposite side of Pa Road. While the applicant's statement above would relate to shallow groundwater flow conditions, consideration of the potential for effects on deeper groundwater, and thus security of the downgradient community water supply, is required.

The Hahei community water takes have been recently granted replacement resource consent. In consideration of the water take applications, a hydrogeological technical review of the Hahei water supply aquifer was undertaken in 2016 by Waikato Regional Council hydrogeologist, Mr John Hadfield. In his review, recorded as Waikato Regional Council document 8971414, Mr Hadfield describes the Hahei Aquifer as confined and relatively isolated from surface contamination. With particular reference to the WWTP, Mr Hadfield states that *"...groundwater age analyses indicates a mean residence time of over a hundred years, which suggests there is relatively effective protection of the deeper aquifer from surface contamination. For example, land disposal of treated effluent immediately up-gradient of the Pa Rd community supply wells has no apparent impact on the confined aquifer at that location (Hadfield, 2005, doc 1176870)."* In this earlier report by Mr Hadfield, dated 2005, which was prior to installation of the existing MFU at the WWTP and redundancy of the land disposal beds, shallow groundwater flow conditions at the WWTP were inferred from piezometric surveying as flowing from the (now redundant) land disposal beds towards the Wigmore Stream. This supports the applicant's statement that groundwater seepage from the WWTP flows towards the stream.

I consider that the existing WWTP operations on site will have less impact on groundwater quality compared to historical use of the land disposal beds. In addition, based on Mr Hadfield's hydrogeological assessment, I consider that the potential for any adverse effects from the WWTP on the deeper Hahei Aquifer via groundwater seepage is likely to be low. I also consider that the risk of surface runoff from the WWTP site to the water supply bore heads is low. However, as mitigation against this risk, albeit low, I recommend a condition of consent that the applicant notify the Waikato Regional Council within 24 hours of any unauthorised discharge from the WWTP ponds to the Wigmore Stream (as per existing consent conditions) as well as adjacent WWTP infrastructure, i.e. redundant disposal beds or storage pond.

6.2 Section 105 Matters

Section 105(1) of the RMA states:

If an application is for a discharge permit or coastal permit to do something that would contravene Section 15 or Section 15B, the consent authority must, in addition to the matters in Section 104(1), have regard to—

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

With regard to section 105(1)(c), the applicant undertook a comprehensive treatment options analysis and community consultation process in 2006, prior to selecting MFU treatment and diversion of the discharge from land disposal beds to the stream. There has been a significant improvement in discharge quality and stream quality since the MFU was installed at the site in 2007. While some treatment upgrades around screening, additional aeration and SCADA monitoring are proposed for the 2017/18 year, other treatment and relocation options have been considered and discarded due to cost.

6.3 Section 107 Restrictions

Section 107(1) of the RMA restricts granting of a discharge permit, if they would otherwise contravene Section 15 of the RMA allowing:

- (a) the discharge of a contaminant or water into water; or*
- (b) a discharge of a contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water,*

if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

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

None of the effects listed in (c) to (g) are known to occur after reasonable mixing. These effects can be managed by conditions of consent on the quality of the discharge. I consider that the granting of a discharge permit will not contravene Section 15 of the RMA.

6.4 Policy Statements, Plans and Regulations

6.4.1 National Environment Standards

At the time of writing this report there are five National Environmental Standards (NES) that are in effect - the National Environmental Standards for Air Quality; Sources of Human Drinking Water; Assessing and Managing Contaminants in Soil to Protect Human Health; Electricity Transmission Activities; and Telecommunication Facilities.

The only relevant NES to this application is the NES for Sources of Human Drinking Water. A search of Waikato Regional Council's Smart Maps system has shown one registered source of drinking water,

Hahei treatment plant (TP00709), located 275 metres from of the proposed activity for a plant population of 66 people. The treatment plant sources its water from groundwater. As the treatment plant serves a population of less than 501 people the NES for Sources of Human Drinking Water does not apply. Further I do not consider the effects outlined in regulation 12(1) are likely to occur, and therefore regulation 12(2) does not apply. Therefore it is my view that the proposal is consistent with this NES.

6.4.2 Other regulations

There are no regulations of relevance to this application.

6.4.3 National Policy Statements

Of relevance to this application is the National Policy Statement for Freshwater Management 2014 (NPSFM).

The objectives of the NPSFM have been addressed in the assessment of this application against the provisions of the Waikato Regional Policy Statement and the Waikato Regional Plan (see below). It is my view that this application is consistent with Objectives A1 and A2 of the NPS.

There are unlikely to be any adverse effects arising from the discharge on ecosystem health and human health for recreation (i.e. the two compulsory national values identified in the NPSFM), with key water quality parameters in the Wigmore Stream downstream of the discharge point being unlikely to exceed the national bottom line specified in the NPSFM as detailed in section 6.1 of this report.

6.4.4 Regional Policy Statement

I have reviewed the following objectives and policies of the Waikato Regional Policy Statement (RPS) with regard to this application:

- Objective 3.8 – Relationship of tangata whenua with the environment
- Objective 3.14 – Mauri and values of fresh water bodies
- Policy 4.3 – Tangata whenua
- Policy 8.1 – Approach to identifying fresh water body values and managing fresh water bodies
- Policy 8.3 – All fresh water bodies

I do not consider that the activity will be contrary to the above RPS provisions provided that the activity is carried out as per the consent conditions I have proposed (see Section 8).

6.4.5 Regional Plan

I have reviewed the following objectives and policies of the Waikato Regional Plan (WRP) with regard to this application:

WRP Chapter 3 – Water module

- Objective 3.2.2 – Management of water resources
- Policy 1: Management of water bodies
- Policy 4: Waikato Region surface water class
- Policy 6: Contact recreation water class
- Policy 8: Reasonable mixing
- Objective 3.5.2 – Discharges
- Policy 1: Enabling discharges to water that will have only minor adverse effects
- Policy 2: Managing discharges to water with more than minor adverse effects
- Policy 6: Tangata Whenua uses and values
- Objective 5.2.2 – Discharges onto or into land
- Policy 1: Low risk discharges onto or into land
- Policy 2: Other discharges onto or into land

- Discretionary Activity Rule 3.5.4.5

The purpose of the objectives in Sections 3.2.2, 3.5.2 and 5.2.2 of the WRP ensures that when considering discharges to water, the effects on water management and land management objectives, contaminant assimilative capacity, and utilisation of allocable flow for other uses are accounted for.

There are unlikely to be any adverse environmental effects from the WWTP discharge with regards to water quality, aquatic ecosystems and contact recreational uses. The Hahei WWTP has achieved a high level of compliance with regards to the conditions of consent AUTH117888, and further works are proposed in the 2017/18 year to improve the quality of the treated wastewater. The relationship tangata whenua has with water has been recognised and provided for through the notification process outlined in section 4 of this report.

6.5 Other Matters

6.5.1 Value of the Consent Holder Investment

As this application is for a replacement resource consent and is affected by section 124 of the RMA, the consent authority must have regard to the value of the investment of the existing consent holder pursuant to section 104(2A) of the RMA. The Hahei WWTP is currently valued at \$934,000 and the proposed upgrades are expected to add an additional \$200,000 (approximately).

6.5.2 Hauraki Gulf Marine Park Act (2000)

The Hauraki Gulf Marine Park Act (2000) recognises the Hauraki Gulf as a matter of national importance such that consent authorities, when considering a resource consent application within the Hauraki Gulf, should have regard to the life-supporting capacity of the environment of the Hauraki Gulf, its islands and catchments. I have reviewed the application and I do not consider it contravenes the purpose and principles of the Hauraki Gulf Marine Park Act, provided all consent conditions are adhered to.

6.5.3 Hauraki Iwi Environmental Plan (Whaia Te Mahere Taiao a Hauraki)

The Hauraki Iwi Environmental Plan provides a background to, and identifies, key resource-based issues for Hauraki Whanui. Key issues of relevance to this application includes water pollution and loss of aquatic habitat. I am satisfied that this proposal will not adversely affect natural resources and taonga in the area, as detailed in section 6.1 of this report. As such, I consider that the proposed activity is not inconsistent with the Hauraki Iwi Environmental Plan.

6.6 Relevant Part 2 Considerations

The proposed discharge is a continuing activity with no change to the current volume of treated wastewater to be discharged to the Wigmore Stream. The applicant has undertaken long-term monitoring of the discharge quality and water quality and ecology of the receiving environment to assess the level of effects the existing discharge has on the stream. The effects of the WWTP discharge on the Wigmore Stream are considered to be no more than minor, and potential effects can be monitored and mitigated.

The proposed activity has been considered in the context of the matters outlined in Part 2 of the Resource Management Act 1991 and, in my opinion, the activities do not compromise any of these issues and, therefore, the overall purpose of the Act.

7 Discussion/Conclusions

Thames Coromandel District Council has applied for resource consent to discharge up to 700 m³/day of treated wastewater from the Hahei WWTP to the Wigmore Stream, and associated seepage to groundwater. This is an application to replace existing consent AUTH117888, which expired on 31 December 2015.

The proposed discharge is a discretionary activity under rule 3.5.4.5 of the Waikato Regional Plan.

During this assessment, I have considered the following:

- Flow and assimilation capacity of the stream,
- Effects on water quality of the Wigmore stream,
- Effects on aquatic ecosystems,
- Effects of seepage to groundwater from the WWTP ponds;
- Consistency of the activities with relevant policies and plans, and
- Consistency of the activities with Part 2 of the Resource Management Act 1991.

As discussed in section 6.1 of this report, the actual environmental effects of the WWTP discharge to the Wigmore Stream and associated groundwater seepage are likely to be minor or less than minor. The applicant proposes to undertake upgrades at the WWTP over the 2017/18 year, which will enable compliance with tighter ammoniacal-nitrogen discharge limits compared to the existing consent. I consider that the resource consent authorising the discharge of treated wastewater from the Hahei WWTP can be granted.

The applicant has applied for a consent duration of “10 to 15 years”. TCDC have advised that they will be reviewing the long-term strategy of the WWTP reticulation scheme over the next ten years, including investigation and design works to reticulate a larger proportion of Hahei to the wastewater scheme. I consider that a consent term of 13 years provides a suitable timeframe to allow for detailed design information to be included in a replacement consent application, while not unduly delaying potential improvements in treatment effectiveness and responsiveness to population growth that a longer consent duration would. I also note the two year timeframe that has passed since expiry of consent AUTH117888.

8 Monitoring

I have proposed conditions of consent similar to consent AUTH117888, with the exception of the following changes:

- Reduction in ammoniacal nitrogen and TKN discharge limits.
- Removal of condition 11 of AUTH117888 allowing for review of the discharge limits should compliance be difficult to achieve with appropriate operation of the treatment plant. I consider that this condition is no longer relevant.
- Reduction in macroinvertebrate sampling from three times per year, as per condition 16(g) of consent AUTH117888, to once per year in January. It is considered that there is sufficient baseline of seasonal data collected since 2010 with which to compare future results. This is a recommendation arising from the AEE, but a reduction in the ecological monitoring program has also been recommended on an occasion separate to this consent application by Mr Bill Vant (document 10352483).
- Removal of the requirement for hourly sampling of *E.coli* and Enterococci for one day in January, as per condition 16(h) of AUTH117888. This is at the request of TCDC on the basis that the WWTP does not discharge continuously over 24 hours, that half the samples are out of spec by the time they are analysed, and that historically the bacteria counts are low or undetectable. I have reviewed the historical monitoring data and agree that for the past five years the hourly sampling results provided under condition 16(h) (five hourly results in the middle of the day) have been low.
- Addition of habitat description to condition 16(g), as included in past ecological surveys.
- Addition of low flow gauging over the 2017/18 summer period to validate/calibrate the flow recorder data and flow correlation.
- Removal of condition 17 of AUTH117888 allowing for the monitoring programme to be reviewed and modified if it is deemed inadequate to characterise the discharge and identify effects on the Wigmore Stream. I consider that this condition is no longer relevant.

- A condition requiring the stream ecology sampling to be undertaken in accordance with previous survey methods, with the most relevant methodology referenced. Also, a condition requiring reporting of ecological effects on a two-yearly basis. These conditions replace condition 23 of AUTH117888.
- Reference to existing management plans, with regular updates to be provided to Waikato Regional Council (e.g. Monitoring Implementation Plan, Contingency Plan).
- Change from 1 May to 1 June for annual reporting to Waikato Regional Council, at the request of the applicant.
- Removal of conditions relating to odour, as this is not within the scope of this resource consent application. The discharge of odour is a permitted activity under Rule 6.2.18.1 of the Waikato Regional Plan.
- A condition requiring treatment plant upgrades as scheduled in the TCDC 2017/18 Long Term Plan to be implemented within one year of the commencement of this consent.
- A review condition allowing for review of the consent should future co-management legislation be enacted, where Waikato Regional Council is required to ensure consistency with the provisions of any such legislation.

9 Recommended Decision

I recommend that in accordance with s104B resource consent application 135636 be granted in accordance with the duration and conditions prescribed in the attached Resource Consent Certificate for the following reasons:

- The continuation of the discharge of treated wastewater will provide for the health and wellbeing of those residents in Hahei connected to the WWTP
- This method of discharge (to the stream via MFU) has resulted in an improvement in water quality and aquatic ecology compared to the previous land treatment and discharge system in place prior to 2007
- The activity will have no more than minor actual or potential adverse effects on the environment
- The activity is not contrary to any relevant plans or policies
- The activity is consistent with the purpose and principles of the Resource Management Act 1991



Donna Jones
Principal Planner – KTB Planning Consultants Ltd

7 December 2017

10 Decision

That the resource consent application is granted in accordance with the above recommendations.

A handwritten signature in black ink, appearing to read 'Hugh Keane', is centered within a rectangular box. The signature is written in a cursive style.

Hugh Keane
Team Leader - Infrastructure
Resource Use

Date: 7 December 2017

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH135636.01.01

File Number: 60 25 05A

Pursuant to the Resource Management Act 1991, the Regional Council hereby grants consent to:

Thames Coromandel District Council
Private Bag 1001
Thames 3540

(hereinafter referred to as the Consent Holder)

Consent Type: Discharge Permit

Consent Subtype: Water - sewage

Activity authorised: Discharge of treated municipal wastewater to the Wigmore Stream and associated seepage to groundwater from treatment ponds

Location: Pa Rd - Hahei (Hahei WWTP)

Map reference: NZTM 1850282 E 5918696 N

Consent duration: This consent will commence on the date of decision notification and expire on 15 December 2030.

Subject to the conditions overleaf:

CONDITIONS

General

- 1) The discharge of treated wastewater authorised by this resource consent shall be undertaken:
 - i) in general accordance with the application for this resource consent (as recorded on the Waikato Regional Council's electronic document management system document no. 3442348) and any documentation supporting the application, and
 - ii) as specified in the resource consent conditions below.

Where there is any disagreement between the application and the consent conditions set out below, then the consent conditions shall prevail.

- 2) The consent holder shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.
- 3) The treatment plant and discharge to the Wigmore Stream shall be managed and operated by an appropriately trained operator.
- 4) The consent holder shall pay to the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act.

Discharge Volume

- 5) The maximum volume of treated wastewater discharged to the Wigmore Stream shall not exceed 700 cubic metres in any 24 hour period.
- 6) The maximum discharge rate of treated wastewater to the Wigmore Stream shall not exceed 8.1 litres per second.

Discharge Quality

- 7) The consent holder shall ensure that all waste entering, and treated in, the Hahei Wastewater Treatment Plant, goes through all stages of treatment available at the plant prior to discharge. This includes the Micro Filtration Unit.
- 8) The following limits shall apply to the discharge to the Wigmore Stream from the commencement of this resource consent:

Parameter	90 percentile, <i>not more than one sample in each preceding 10 samples shall exceed:</i>	Running average, <i>over any consecutive 10 samples shall not exceed:</i>
a) Suspended solids (g/m ³)	20	10
b) Carbonaceous biochemical oxygen demand (cBOD ₅) (g/m ³)	20	10
c) <i>Escherichia coli</i> (cfu/100 mL)	20	10
d) Total ammoniacal nitrogen (g/m ³)	15	10
e) Total Kjeldahl Nitrogen (g/m ³)	20	15
f) Total Phosphorus (g/m ³)	20	14

- 9) Notwithstanding the stated limits in condition 8, the consent holder shall make all reasonable and practical efforts to ensure that the final effluent quality is maximised within the capabilities of the treatment system in operation.

- 10) The point at which compliance with condition 8 of this consent shall be determined is from a grab sample taken at the point of discharge from the treatment plant and prior to discharge to the Wigmore Stream.

Metering and Monitoring

- 11) A flow meter shall be installed to record, on a continuous basis, the quantity of effluent discharged on a daily basis. The device shall have a reliable calibration to water flow and shall be maintained to an accuracy of +/- 5%. Access to the meter shall be made available to the staff and agents of the Waikato Regional Council at all reasonable times.
- 12) Calibration of the flow meter shall be undertaken by the consent holder, at the request of the Waikato Regional Council, if during the term of this consent the accuracy of the meter is considered less than that required by condition 11. The calibration shall be undertaken by an independent qualified person and evidence documenting the calibration shall be forwarded to the Waikato Regional Council within one month of the calibration being completed.
- 13) An alarm system shall be installed to operate in the event of any mechanical failure. The details of the alarm system shall be included within the Management Plan as required by condition 25 of this consent.
- 14) Within 3 months of the commencement of this consent the consent holder shall install and monitor a flow recorder which shall, as a minimum, record flow in the Wigmore Stream in litres per second every 15 minutes at a suitable location upstream of the discharge authorised by this consent. The purpose of the flow monitoring is to establish a reliable correlation to flows in the Opitonui River. The datalogger shall be linked by telemetry to the Waikato Regional Council. It shall be cross referenced to the Waikato Regional Council flow recorder on the Opitonui River downstream of Awaroa Stream Confluence (Waikato Regional Council Site Number 660.1, Map Reference NZTM 1832431E 5926826N). The necessity for flow recording may be modified at any time following approval in writing from the Waikato Regional Council following a request in writing from the consent holder to do so. The approval process will consider a written report by the consent holder with data and explanation to show that sufficient flow monitoring of the Wigmore Stream has been obtained to have a scientifically reliable correlation to flows in the Opitonui River, or which demonstrates the inability to obtain a scientifically reliable correlation following the collection of sufficient flow data. The minimum period of flow monitoring shall include a summer/autumn period with a prolonged low flow recession.
- 15) In addition to the flow monitoring required by condition 14 of this consent, the consent holder shall undertake manual low-flow gauging in the Wigmore Stream at least once during each calendar year when flows are at a seasonal summer low and the flow recorder site is operational. Where there is a prolonged period of summer low flows, the consent holder will repeat the low-flow gauging to ensure data at lower stream flows are measured. The low-flow gauging shall be undertaken at a suitable location upstream of the discharge authorised by this consent at or near the flow recorder site. The purpose of the low-flow gauging is to verify the flow records measured by the flow recorder. The low-flow gauging shall be undertaken by an appropriately qualified and experienced person. A copy of the results of the gauging(s) shall be forwarded to Waikato Regional Council with the written report required in condition 14 and 21 of this consent. The requirement for manual stream flow monitoring under this condition can cease when approval in writing from the Waikato Regional Council under condition 14 has been provided.

Discharge and Surface Water Monitoring

- 16) The consent holder shall measure and characterise the quality, quantity and variability of treated effluent being discharged to the Wigmore Stream and the effects of the discharge on the quality and variability of surface water. To this end, the consent holder shall undertake sampling and analysis of

the discharge and surface water as follows:

Frequency	Sample type and/or location	Parameter
a) Every 15 minutes	Wigmore Stream Refer to condition 14.	<ul style="list-style-type: none"> Water level Instantaneous flow
b) Daily	Treatment Plant	<ul style="list-style-type: none"> Rainfall
c) Daily	Discharge	<ul style="list-style-type: none"> Volume Instantaneous peak flow Average flow
d) Weekly - during the period from the start of the third week of December to the start of the third week of February - monthly otherwise.	<ul style="list-style-type: none"> Inlet of MFU Discharge, following all treatment stages and prior to entering the Wigmore Stream Wigmore Stream 50 metres upstream of discharge Wigmore Stream downstream at Pa Road bridge <p>Downstream samples to be collected within the period 1 hour either side of local low tide during daylight hours and while discharge is operating.</p>	<ul style="list-style-type: none"> Total Ammoniacal Nitrogen <i>Escherichia coli</i> Enterococci Conductivity pH Sample date and time Time of low tide occurrence closest to sample time
e) Monthly – to coincide with d)	<ul style="list-style-type: none"> Inlet of MFU Discharge, following all treatment stages and prior to entering the Wigmore Stream Wigmore Stream 50 metres upstream of the discharge Wigmore Stream downstream at Pa Road bridge <p>Downstream samples to be collected within the period 1 hour either side of local low tide during daylight hours and while discharge is operating.</p>	<ul style="list-style-type: none"> cBOD₅ Nitrate Nitrogen Suspended solids Total Kjeldahl Nitrogen Soluble Reactive Phosphorus Total Phosphorus by Persulphate Digestion Turbidity Sample date and time Time of low tide occurrence closest to sample time
f) Once per year in January or February	<ul style="list-style-type: none"> Wigmore Stream 50 metres upstream of the discharge Wigmore Stream downstream at Pa Road bridge <p>Refer to condition 19 for sampling and assessment methodology.</p>	<ul style="list-style-type: none"> Aquatic Macroinvertebrate assessment Habitat and aquatic plant assessment Sample date and time Time of low tide occurrence closest to assessment time
g) At least once per year – to coincide with summer low flows	Wigmore Stream Additional gauging each summer may be required if low flow conditions are prolonged, to capture a series of low flow records. Refer to condition 15.	<ul style="list-style-type: none"> Flow (via flow gauging) Sample date and time
h) Once every five years in January or February, commencing 2019	<ul style="list-style-type: none"> Wigmore Stream 50 metres upstream of the discharge Wigmore Stream downstream at Pa Road bridge 	<ul style="list-style-type: none"> Fish populations

- 17) All samples taken in relation to monitoring under this consent shall be collected by a suitably qualified and experienced person(s) with relevant training in the sampling and transporting of water quality samples and in accordance with the Monitoring Implementation Plan titled "Wastewater Sampling at Hahei WWTP and Wigmore Stream" by United Water, dated 1-04-2009 (Waikato Regional Council document number 1472702), or any subsequent update. This plan shall detail methods and map locations for how, when and where sampling will take place. An updated Monitoring Implementation Plan shall be provided to the Waikato Regional Council within three months of commencement of this consent, and at two yearly intervals thereafter, or more often if any method or location changes. The Waikato Regional Council shall be provided with an updated copy of the Monitoring Implementation Plan within one month of any update to the Plan.
- 18) All sample analyses shall be undertaken in accordance with the methods detailed in the "Standard Methods for the Examination of Water and Waste Water, 2017" 23rd edition A.P.H.A and A.W.W.A. and W.E.F., or any other method approved by the Waikato Regional Council.
- 19) All ecological surveys carried out in relation to monitoring under this consent shall be undertaken by a suitably qualified and experienced person(s) with relevant training in ecological monitoring and assessment. The sampling and analysis methodology shall be consistent with previous surveys undertaken at this site, as summarised in the report titled "Hahei Wastewater Treatment Plant Assessment of Ecological Effects" by Kessels Ecology, dated 24 May 2017 (Waikato Regional Council document number 11016880). The sampling and analysis methodology may be modified following approval in writing from the Waikato Regional Council.

Periodic Reporting

- 20) The consent holder shall provide to the Waikato Regional Council a data report by 1 December each year that this consent is current. This report shall include all data collected under condition 16 of this consent for the period 1 April to 30 September of the current year and shall identify any non-compliance within that period.
- 21) The consent holder shall provide to the Waikato Regional Council a written monitoring report by 1 June each year that this consent is current for the 12 month period from 1 April of the preceding year to 31 March of the current year. As a minimum this report shall include the following:
 - a) a summary of the monitoring results required by condition 16 of this consent for the 12 month period from 1 April of the preceding year to 31 March of the current year and a critical analysis of the information in terms of compliance and environmental effects;
 - b) a comparison of data with previously collected data identifying any emerging trends;
 - c) comment on compliance, and any reasons for non-compliance or difficulties in achieving compliance, with condition 8 of this consent;
 - d) comment on any works that have been undertaken, or that are proposed to be undertaken in the upcoming year, to improve the environmental performance of the treatment and/or disposal system;
 - e) report on and discuss any complaints received regarding the treatment and/or discharge of treated effluent; and
 - f) any other issues considered important by the consent holder.
- 22) The consent holder shall provide to the Waikato Regional Council an ecological assessment report by 1 June every two years for the duration of this consent. This report shall be prepared by a suitably qualified person or persons with relevant training in ecological monitoring and assessment. As a minimum this report shall include the following:

- a) a summary of the ecological monitoring and water quality results required by condition 16 for the preceding two years;
- b) a comparison of data with previously collected data identifying any emerging trends;
- c) a critical analysis of the current ecological health of the Wigmore Stream, the potential causes of any degradation of the stream, the effects of the discharge authorised by this consent on the Wigmore Stream and downstream coastal waters;
- d) any other issues considered important by the ecologist.

Contingency Plan

23) In the event of any bypasses, other extraordinary events or failure of any critical part of the treatment plant, the consent holder shall manage the treatment plant and discharge to the Wigmore Stream in accordance with the Contingency Plan titled "Hahei Wastewater Treatment Plant Contingency Plan 2015" by Veolia (Waikato Regional Council document number 3584298 and 3584310), or any subsequent update. An updated plan shall be provided to the Waikato Regional Council by 1 June 2018, and at three yearly intervals thereafter. The consent holder shall engage appropriately experienced persons to compile any update to the Contingency Plan, and it shall identify measures and notification protocols to be undertaken by the consent holder that will take into account any potential adverse effects on the Wigmore Stream and users, including but not limited to ecological effects, downstream recreational use, and the Medical Officer of Health.

Management Plan

24) The consent holder shall provide the Waikato Regional Council with a Management Plan which details the procedures that will be implemented to operate in accordance with the conditions of this resource consent and the procedures that will be put into place to maximise wastewater treatment and minimise odour production. This plan shall be lodged with the Waikato Regional Council within 3 months of the commencement of this consent, and shall be reviewed and updated as a minimum annually. The plan shall address, but may not be limited to, the following:

- a) a description of the entire treatment and disposal system facility and how it is operated;
- b) a description of routine maintenance procedures to be undertaken;
- c) an outline of the methods to be utilised to monitor the treatment plant in an operational sense including: monitoring of influent waste water and monitoring of treatment performance;
- d) a description of the methods to be used to ensure that sampling of the discharge as required by condition 16 of this consent is representative of overall discharge quality;
- e) specific management procedures for the efficient functioning of the treatment system including Micro Filtration Unit, including measures to ensure compliance with condition 8 of this consent relating to discharge quality parameters;
- f) procedures for recording routine maintenance and all repairs that are undertaken;
- g) contingency measures in place to deal with unusual events;
- h) chain of command and responsibility, including contact details;
- i) other actions necessary to comply with the requirements of this resource consent;
- j) procedures for improving and/or reviewing the management plan.

25) The consent holder shall manage the wastewater treatment and discharge in accordance with the Management Plan referred to in condition 24 of this consent. Any changes to the Management Plan shall be advised to the Waikato Regional Council in writing after consultation between the consent holder and the Waikato Regional Council.

Unauthorised Discharge

26) The consent holder shall notify the Waikato Regional Council as soon as practicable, and as a minimum requirement within 24 hours, of any discharge to Wigmore Stream from a source that

has bypassed any part of the treatment system, or any discharge to the redundant disposal beds and/or redundant storage pond. The consent holder shall, within 7 days of the discharge occurring, provide a written report to the Waikato Regional Council, identifying the extent of the discharge, possible causes, steps undertaken to remedy the effects of the discharge and measures that will be undertaken to ensure future compliance with this consent.

Complaints

- 27) The consent holder shall maintain and keep a complaints register for all complaints, including discharge, water quality and odour complaints regarding operations at the site received by the consent holder. The register shall record:
- a) the date, time and duration of the event that has resulted in a complaint,
 - b) any corrective action undertaken by the consent holder in response to the complaint, including actions taken to prevent similar events in the future.
 - c) the location of the complainant when the event was detected,
 - d) the possible cause of the event, and
 - e) the weather conditions and wind direction at the site when the event allegedly occurred.
- 28) The register outlined in condition 27 shall be available to the Waikato Regional Council at all reasonable times. Waikato Regional Council shall be informed of complaints received by the consent holder which may infer non-compliance with the conditions of this resource consent to the Waikato Regional Council within 24 hours of the complaint being received. In addition, the consent holder shall provide written information on the incident including all of the details required by (a) to (e) of condition 27 of this consent, which shall be forwarded to the Waikato Regional Council within 5 days of the complaint being received.

Wigmore Stream Mouth

- 29) The consent holder shall be responsible for ensuring that the Wigmore Stream, from the treated wastewater discharge point to its mouth, is kept clear of debris and that the stream mouth is not blocked by sand, to the extent that the flow of the Wigmore Stream is unimpeded into the coastal marine area. The consent holder's obligations in respect of this condition are limited to the works that can be undertaken without the need for resource consent under the relevant rule(s) of the Waikato Regional Coastal Plan.

Upgrade Works and Reporting

- 30) The consent holder shall implement the treatment plant upgrade works detailed in the Technical Memo titled "Hahei WWTP Consent Ammonical Nitrogen Reduction" by Harrison Grierson, dated 14 June 2017 (Waikato Regional Council document number 10628287), or equivalent upgrades, to ensure the wastewater discharge limits in condition 8 are met. The works shall include, as a minimum, installation of additional aeration in the Aeration Pond. These works shall be fully implemented within one year of the commencement of this consent.
- 31) The consent holder shall provide a written report on or before the fifth and tenth anniversaries of the commencement of this consent that shall outline:
- a) what investigations have been undertaken to date to identify the long-term strategy for wastewater treatment and disposal options at Hahei upon the expiry of this consent,
 - b) what investigations have been undertaken or identified in relation to potential effects of disposal options being considered for wastewater at Hahei upon the expiry of this consent,
 - c) what consultation has been undertaken in relation to potential treatment and disposal options for wastewater at Hahei upon the expiry of this consent.

Review

- 32) The Waikato Regional Council may, within the six month period following receipt of the monitoring information required by condition 22 of this consent, serve notice on the consent

holder under section 128(1) of the Resource Management Act 1991 and commence a review of the conditions of this resource consent for the purpose of reviewing the compliance limit(s) of any contaminant and/or, if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on surface water quality or ecology due to the discharge.

- 33) The Waikato Regional Council may, within the year of the second, fifth and tenth anniversary of the commencement of this consent, serve notice on the consent holder under section 128 (1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for the following purposes:
- i) to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on ground or surface water quality from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or
 - ii) if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on surface water quality due to the discharge; or
 - iii) to review the adequacy of and the necessity for monitoring undertaken by the consent holder.

Costs associated with any review of the conditions of this resource consent will be recovered from the consent holder in accordance with the provisions of section 36 of the Resource Management Act 1991.

- 34) Within 12 months of any co-management legislation commencing for the Hauraki Gulf catchment, the Waikato Regional Council may, following service of notice on the consent holder pursuant to section 129 of the Resource Management Act 1991, commence a review of the conditions of this consent pursuant to section 128 of the Resource Management Act 1991, for the purpose of ensuring that this consent is consistent with the provisions of any such legislation.

Access

- 35) This resource consent is granted by the Waikato Regional Council subject to its officers or agents being permitted access to the property at all reasonable times for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.

Advice notes

1. This resource consent does not give any right of access over private or public property. Arrangements for access must be made between the consent holder and the property owner.
2. The consent holder may apply to change the conditions of the resource consent under s.127 RMA.
3. The reasonable costs incurred by Waikato Regional Council arising from supervision and monitoring of this consent will be charged to the consent holder. This may include but not be limited to routine inspection of the site by Waikato Regional Council officers or agents, liaison with the consent holder, responding to complaints or enquiries relating to the site, and review and assessment of compliance with the conditions of consent.
4. Note that pursuant to s333 of the RMA 1991, enforcement officers may at all reasonable times go onto the property that is the subject of this consent, for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.
5. If you intend to replace this consent upon its expiry, please note that an application for a new consent made at least 6 months prior to this consent's expiry gives you the right to continue exercising this consent after it expires in the event that your application is not processed prior to this consent's expiry.

In terms of s116 of the Resource Management Act 1991, this consent commences on 7 December 2017.