

CONSENT SUMMARY REPORT

Consent Name	Te Kauwhata Wastewater Treatment
Resource Consent	117991
Year	1 July 2023 – 30 June 2024
Date	July 2024

TE KAUWHATA WASTEWATER TREATMENT SYSTEM RC 117991 ANNUAL REPORT 2023 - 2024

The Waikato District Council (WDC) holds the above resource consent associated with the treatment and discharge of wastewater from the Te Kauwhata wastewater treatment plant (WWTP) to Lake Waikare. Waikato District Council in conjunction with Watercare Services Limited operates the facility under the resource consents issued by Waikato Regional Council. The consent was issued July 2013 and will expire 2028.

The conditions issued by Waikato Regional Council include the following:

- 117991 Discharge to Lake Waikare a maximum of 3,600m³ of treated wastewater per day.
Discharge to Lake Waikare an average daily volume not exceeding 1,100m³ per day.

During the 2023-2024 reporting period, the Te Kauwhata treatment system was unable to meet consented discharge limits for TKN, TN, and TN Load. The consented limits were met for TSS, TP, TP Load, cBOD5, and E. coli for the 2022-23 reporting period.

Appendix 1 – Summary Spreadsheet

Appendix 2 – Complaints Summary

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OPERATIONAL COMMENTS

Staff Maintenance Visits: The plant is visited approximately twice per week.

FUTURE WORKS

- The new Wastewater Treatment Plant upgrades were completed and commissioned in 2023, the installation of the MABR/MBR has showed drastic improvements in effluent quality.

EVENT SUMMARY		JULY 2023 – JUNE 2024	
2023 - 2024		All non-compliances notified to WRC.	

COMPLAINTS SUMMARY		JULY 2023 – JUNE 2024	
2023 - 2024		See Appendix 2.	

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To determine compliance with the median limits (excluding E.coli), no more than six samples in any 12 consecutive monthly samples over the period 1 July to 30 June each year shall exceed the specified limit.

To determine compliance with the median E. coli limit, no more than 13 samples in any 26 consecutive fortnightly samples shall exceed the specified limit.

To determine compliance with the 90th percentile limits, no more than one sample in any ten consecutive monthly sampling events shall exceed the specified limit.

Compliance with the discharge quality conditions are summarized in the above table within the Compliance column. The measurement stated in the Compliance column cell indicates the number of test results exceeding the median or 90th percentile limit. The shading in the Compliance column cells indicates the state of compliance for each parameter; if the cell is shaded green the parameter is compliant, if the cell is shaded red the parameter is non-compliant.

Data Summary		Jun-2024		RC117991 - Te Kauwhata							
Inflow Summary Reporting		m ³									
Average Daily Inflow		405									
Max Daily Inflow		1,749									
Average Monthly Total		12,399									
Max Monthly Total		33,446									
Annual Inflow Total		148,793									
PWWF/ADWF Ratio		4.3									
Outflow Summary Reporting		Daily Limit - 3600 m3									
Average Daily Flow		1,061									
Max Daily Flow		2,309									
90th Percentile Daily Flow		2,072									
Average Monthly Total		32,358									
Max Monthly Total		40,485									
Annual Outflow Total		388,297									
Discharge Monthly Tests				Consent Limits		Trigger Limit		Measured		Compliance	
Parameters	Unit	Median	90 th ile	Median	90 th ile	Median	90 th ile	Median	90 th ile		
CBOD5	g/m ³	10.0	20.0			2.2	7.9	0 / 12	0 / 12	Compliant	
TKN	g/m ³	12.0	15.0			15.7	38.8	6 / 12	6 / 12	X	
Total Nitrogen	g/m ³	8.0				17.5		7 / 12		X	
TN Load	kg/day	8.0				19.3		7 / 12		X	
Total Phosphorus	g/m ³	5.6	7.0			2.4	4.1	1 / 12	0 / 12	Compliant	
TP Load	kg/day	3.1				2.3		5 / 12		Compliant	
Total Suspended Solids	g/m ³	15.0	25.0			3.3	18.7	2 / 12	1 / 12	Compliant	
E.Coli	MPN/100 mL	1,500.0				0.8		1 / 30		Compliant	

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JULY 2023 – JUNE 2024

A summary of results are included in the spreadsheet above and a summary of compliance matters are included in the cover letter.

Condition Comments	
3	<p><i>The max volume of treated wastewater discharged to Lake Waikare shall not exceed 3,600m³ per day.</i></p> <ul style="list-style-type: none"> Compliant - Max volume discharged 3,381 m³ per day.
4	<p><i>The annual average volume of treated wastewater discharged to Lake Waikare shall not exceed 1,100m³ per day.</i></p> <ul style="list-style-type: none"> Compliant - Average Daily Outflow volume of 864 m³.
5-6	<p><i>The consent holder shall investigate alternative disposal locations for the disposal of treated wastewater from the Te Kauwhata Wastewater Scheme and, within two years of the commencement of this consent, shall provide a report to the Waikato Regional Council with a preliminary assessment of the alternative options.</i></p> <ul style="list-style-type: none"> The report titled “Te Kauwhata Wastewater Treatment Disposal Options” was prepared by Pattle Delamore Partners in 2007 prior to the Resource Consent being granted. <p><i>Within two years of completion of the report required by condition 5 and every two years thereafter, the consent holder shall provide a further report on alternative options to the Waikato Regional Council and as a minimum the report shall provide:</i></p> <ol style="list-style-type: none"> <i>Details of the further investigations undertaken in relation to the alternative options identified in the report required by clauses (d) and (e) of condition 5 of this consent;</i> <i>An updated assessment of the practicability of implementing each of the options identified in clause (c) of condition 5 of this consent;</i> <i>Any proposed amendments to the assessments being undertaken pursuant to clause (d) of condition 5 of this consent and the rationale for this;</i> <i>Describe the consultation undertaken during the preparation of the report, in particular the consultation undertaken pursuant to condition 18 of this consent.</i> <i>Assess progress against the timetable contained in Appendix 2.</i> <ul style="list-style-type: none"> Mid Waikato Servicing Strategic plan which includes alternative options were submitted to WRC as Appendix Eight to the 2019-20 Annual report.
7	<p><i>Notwithstanding the stated limits in conditions of this consent, the consent holder shall operate the treatment system with the objective of achieving the highest final effluent quality that can reasonably and practicably be achieved having regard to the capabilities of the treatment system, financial implications, the current state of technical knowledge and best wastewater management practice. For the avoidance of doubt, nothing in this condition requires the consent holder to achieve lower limits than those specified in condition 8 of this consent.</i></p>

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The capital solution for the non-compliant effluent has been completed.

Stage 1 – Interim Improvements

- Interim improvement have included temporary Ultrafiltration and UV treatment which are operational to reduce TSS and E.Coli. The UV treatment system commenced operation in March 2022. The Ultrafiltration containerized unit has been installed and started operation March 2023, this reduced TSS and further reduced E. coli levels.

Stage 2 – MABR/MBR

- Installation of an MABR/MBBR process which resolved the remaining consent non-compliances (TN, TP, robust TSS performance) and to allow for growth in the next five years. There is a facility for lane expansion to meet the Waikato District Council's 2070 Growth Strategy. The upgrade was brought into service in December 2023.

- 8 The consent holder shall ensure that the quality of the discharge to Lake Waikare shall comply with the following limits:
- a) The median five day carbonaceous biochemical oxygen demand (cBOD5) concentration shall not exceed 10 grams per cubic metre and the 90th percentile shall not exceed 20 grams per cubic metre;
Compliant - Median result 2.2 g/m³ and 90th Percentile result 7.9 g/m³
 - b) The median suspended solids (SS) concentration shall not exceed 15 grams per cubic meter and the 90th percentile shall not exceed 25 grams per cubic meter;
Compliant - Median result 3.3 g/m³ and 90th Percentile result 18.7 g/m³
 - c) The median Total Kjeldahl Nitrogen (TKN) concentration shall not exceed 6 grams per cubic meter and the 90th percentile shall not exceed 12 grams per cubic meter;
Non-compliant - Median result 15.7 g/m³ and 90th Percentile result 38.8 g/m³.
 - d) The median total nitrogen (TN) concentration shall not exceed 8 grams per cubic meter;
Non-compliant - Median result 17.5 g/m³
 - e) The median total nitrogen load (TNload) shall not exceed 8.8 kilograms per day;
Non-compliant - Median result 19.3 kg/day
 - f) The median total phosphorus (TP) concentration shall not exceed 5.6 grams per cubic meter;
Compliant - Median result 2.4 g/m³ and 90th Percentile result 4.1 g/m³
 - g) The median total phosphorus load (TPload) shall not exceed 3.1 kilograms per day;
Compliant - Median result 2.3 kg/day
 - h) The median E-coli concentration in any 12-month period shall not exceed 1500 MPN per 100 mL.
Compliant - Median result 0.8 MPN/100mL
- Please see the attached Appendix 1 summary spreadsheet.
 - The plant upgrades have significantly improved the Te Kauwhata WWTP performance.

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9	<p><i>The consent holder shall continuously monitor the flow rate of wastewater entering and leaving the treatment plant and shall record the total daily influent and discharge volumes.</i></p> <ul style="list-style-type: none"> Compliant - Please see the attached summary spreadsheet (Appendix One). The inflow and outflow volumes recorded in Water Outlook as required.
13	<p><i>The consent holder shall prepare an Operations and Management Plan. This Plan shall be prepared by a suitably qualified and experienced person and shall detail how the treatment and disposal system is to be operated and maintained to ensure compliance with the conditions of this consent and consent 117992. The O & M Plan shall include a Botulism Management Plan developed in consultation with Auckland - Waikato Fish and Game and shall be reviewed and updated annually and as required as a result of any changes in plant operation or management.</i></p> <ul style="list-style-type: none"> An Operations & Management Plan is retained for this site. The Te Kauwhata Operations & Management Plan was subjected to an initial review by the Watercare team and is attached as Appendix 3 of the 2021-2022 Annual Report. Plant upgrades will result in an updated Operations & Management Plan.
15	<p><i>The consent holder shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.</i></p> <ul style="list-style-type: none"> All contractors employed at the treatment site are inducted in both health and safety procedures and relevant conditions of this consent.
16	<p><i>In conjunction with consent 117991 the consent holder shall maintain and keep a Complaints Register.</i></p> <ul style="list-style-type: none"> Council's CRM database records all complaints from the public. There were 2 complaints logged to our data in relation to Te Kauwhata area.
17	<p><i>The consent holder shall erect a total of four signs around the shoreline of Lake Waikare advising the public of the presence and associated potential public health risks of the treated wastewater discharge authorised by this consent. The signs shall be located such that they are clearly visible to the public. The location of, and wording on, the signs shall be to the satisfaction of the Waikato Regional Council, following consultation with the consent holder, Auckland Waikato Fish and Game, the Department of Conservation and the Ngaa Muka Development Trust.</i></p> <ul style="list-style-type: none"> The signs, as agreed by the stated groups, were installed at four locations around the shoreline of Lake Waikare in August 2014.
18	<p><i>Within three months of the commencement of this consent, the consent holder shall invite parties with an interest in Lake Waikare, including but not limited to representatives of: Waikato-Tainui, Ngaa Muka Development Trust, Taniwha Marae, Waikare Marae, Horahora Marae, Maurea Marae, Okaerea Marae, Waahi Whaanui Trust, Auckland-Waikato Fish and Game, Department of Conservation, River and Catchment Services - Waikato Regional Council and the Lake Waikare Care Group to participate in the "Te Kauwhata Wastewater Treatment Consultation Group" ("TKWTCG").</i></p> <ul style="list-style-type: none"> The TKWTCG has been formed with Waikato-Tainui, Waikato Regional Council, Department of Conservation, Auckland-Waikato Fish and Game, Waikato District Council. Regular Meetings are being held, most recently a Hui hosted by Ngaa Muka.

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19	<p><i>The consent holder shall forward the results of the monitoring undertaken pursuant to conditions 8 and 11 to the Waikato Regional Council, via electronic means, within one month of receipt of the results by the consent holder.</i></p> <ul style="list-style-type: none"> • Water Outlook reports sent to Regional Council monthly. • Water Outlook reporting has allowed this process to be automated.
20	<p><i>The consent holder shall provide to the Waikato Regional Council and the TKWTCG a written report by 30 September each year, addressing the following:</i></p> <p><i>(i) A summary of the monitoring results required by conditions of this resource consent for the year ending 30 June;</i></p> <p><i>(ii) Critical analysis of the monitoring data collected and comments on any emerging trends;</i></p> <p><i>(iii) Comment on compliance with the conditions of this resource consent;</i></p> <p><i>(iv) Any reasons for non-compliance or difficulties in achieving compliance with the conditions of this resource consent and a description of and a summary of the efficacy of any remedial works undertaken;</i></p> <p><i>(v) Any ecological enhancement works undertaken by the consent holder in the Lake Waikare catchment; and</i></p> <p><i>(vi) Any other issue considered relevant to the consent holder.</i></p> <ul style="list-style-type: none"> • This report, the attached spreadsheet and the consent summary report are submitted in compliance with this condition.
21	<p><i>The consent holder shall notify the Waikato Regional Council and members of the TKWTCG as soon as practicable after the consent holder has become aware of any occasion when the limits specified in condition 8 of this resource consent have been exceeded, or any accidental discharge, plant breakdown or other circumstance which is likely to result in the limits of this consent being exceeded. The consent holder shall, within 10 working days of the incident occurring, provide a written report to the Waikato Regional Council, identifying the breach, possible causes and steps to ensure future compliance.</i></p> <ul style="list-style-type: none"> • All major incidents are notified to WRC as required. • WSL-WRC liaison meetings as necessary and monthly updates to address any non-compliances.