

TAUWHARE SUMMARY REPORT

Watercare
An Auckland Council Organisation



Waikato
District Council
Te Kaunihera aa Takiwaa o Waikato

Consent Name	Tauwhare Wastewater Treatment Plant
Consent No.	121024
Year	1 July 2023 – 30 June 2024
Date	July 2024

TAUWHARE WASTEWATER TREATMENT SYSTEM ANNUAL REPORT 2023 - 2024

RC 121024

The Waikato District Council (WDC) holds the above resource consent associated with the treatment and discharge of wastewater from the Tauwhare wastewater treatment plant (WWTP) to ground. Waikato District Council in conjunction with Watercare Services Limited operates the facility under the resource consents issued by Waikato Regional Council. The treatment system has been receiving waste from the community since November 2011 and this consent expires on 31 October 2035.

The conditions issued by Waikato Regional Council include the following:

121024 To discharge up to 63m³ per day of treated wastewater from the plant, subject to a number of conditions.

The treatment plant is based on secondary wastewater treatment technology disposing treated wastewater uniformly into land via a shallow subsurface laid irrigation network.

Discharge volumes and total suspended solids are compliant with resource consent limits. Discharge quality was non-compliant with CBOD5.

Appendix 1 – Data Summary

Appendix 2 – Complaints Summary



OPERATIONAL COMMENTS

Staff Maintenance Visits: An operations staff member visits the site at least once a week.

FUTURE WORKS

N/A

EVENT SUMMARY		JULY 2023 – JUNE 2024
2023 - 2024	All events notified to WRC	

COMPLAINTS SUMMARY		JULY 2023 – JUNE 2024
2023 – 2024	None received.	

TAUWHARE SUMMARY REPORT

Data Summary	Jun-2024	RC121024 - Tauwhare
--------------	----------	---------------------

Outflow Summary Reporting	Daily Limit - 63 m3
Average Daily Flow	24
Max Daily Flow	34
Average Monthly Total	731
Max Monthly Total	796
Annual Outflow Total	8,771

Discharge Monthly Tests	Unit	Consent Limits		Measured		Compliance	
		Median	90%ile	Median	90%ile	90%ile	
Parameters							
CBOD5	g/m ³	10	20.0	12.10	21.70	2 / 12	X
Nitrate	g/m ³			5.38	13.53		
Total Nitrogen	g/m ³			22.50	26.00		
Total Phosphorus	g/m ³			8.33	9.31		
Total Suspended Solids	g/m ³	20	30.0	12.85	26.72	1 / 12	Compliant
E. coli				114,000.00	708,000.00		

Quarterly Sampling Bore 1	Unit	Consent Limits		Measured		Compliance			
		Median	90%ile	Median	90%ile	Aug-2023	Oct-2023	Jan-2024	May-2024
Parameters									
Conductivity	us/cm2			22.100	23.050	24.000	22.600	21.500	21.100
Water Level	m			5.133	5.919	8.450	5.950	4.890	5.520
Chloride	g/m ³			15.850	19.390	19.300	18.400	15.100	15.600
Ammoniacal Nitrogen	g/m ³			0.200	0.200	0.200	0.200	0.003	0.200
Nitrate	g/m ³			4.045	4.918	4.900	4.110	3.900	3.890
Total Nitrogen	g/m ³			4.300	4.980	4.800	4.500	4.000	4.100
E. coli				0.800	1.520	45,147.000	45,227.000	45,309.522	45,410.471

Quarterly Sampling Bore 3	Unit	Consent Limits		Measured		Compliance			
		Median	90%ile	Median	90%ile	Aug-2023	Oct-2023	Feb-2024	Apr-2024
Parameters									
Conductivity	us/cm2			29.700	32.350	29.700	28.000	31.000	32.500
Water Level	m			4.278	4.973	3.580	4.610	4.140	4.870
Chloride	g/m ³			18.800	20.500	18.300	18.800	21.200	18.800
Ammoniacal Nitrogen	g/m ³			0.200	0.200	0.200	0.200	0.003	0.200
Nitrate	g/m ³			11.800	13.800	9.810	11.700	13.800	14.400
Total Nitrogen	g/m ³			13.500	14.900	9.900	12.000	14.000	15.000
E. coli				0.800	4.680	45,147.000	45,227.000	45,309.522	45,410.471

Quarterly Sampling Bore 4	Unit	Consent Limits		Measured		Compliance			
		Median	90%ile	Median	90%ile	Jul-2023	Oct-2023	Jan-2024	May-2024
Parameters									
Conductivity	us/cm2			24.600	27.200	27.200	24.300	24.800	24.400
Water Level	m			4.3	5.3	3.2	3.9	4.08	4.69
Chloride	g/m ³			13.9	17.3	17.4	13.8	13.7	14
Ammoniacal Nitrogen	g/m ³			0.2	0.2	0.2	0.2	0.0025	0.2
Nitrate	g/m ³			11.85	14.8	13.9	12.2	11.5	11.3
E. coli	CFU/100ml			0.8	2.34	45147	45227	45309.52247	45410.4714

For Quarterly Sampling results please see Appendix One.

TAUWHARE SUMMARY REPORT

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.

ANNUAL REPORT

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.

Conditions Comments	
1	<p><i>The volume of effluent discharged from the wastewater treatment plant and land application system shall not exceed 63 cubic metres per day (over a 24 hour period).</i></p> <ul style="list-style-type: none"> Compliant - Max daily discharge was calculated to be 34 m³. Please see the attached summary spreadsheet.
4	<p><i>The discharge quality as measured at the outlet of the wastewater treatment plant shall not exceed the following:</i></p> <p><i>i. 20 mg/L (milligrams per litre) Biochemical Oxygen Demand, 90 percentile.</i></p> <ul style="list-style-type: none"> Non-compliant 21.70 mg/L - Please see Appendix 1 spreadsheet data summary. <p><i>ii. 30 mg/L (milligrams per litre) Suspended Solids, 90 percentile.</i></p> <ul style="list-style-type: none"> Compliant – 26.72 m³ - Please see Appendix 1 spreadsheet data summary.
5	<p><i>The maximum loading rate of effluent as applied to land shall not exceed 5.0mm/day absolute (ie 5.0 litres per square metre of application area), or the absorptive capacity of the soils, whichever is the lesser.</i></p> <ul style="list-style-type: none"> Compliant - Please see Appendix 1 spreadsheet data summary.
6	<p><i>The mass of Total Nitrogen applied to land shall not exceed 260 kilograms per hectare per year. (897g/day over 1.27ha).</i></p> <ul style="list-style-type: none"> Compliant - Please see Appendix 1 spreadsheet data summary.
7	<p>There shall be no overland discharge (ie leakage to ground surface) off effluent from any part of the wastewater treatment plant or land application system.</p> <ul style="list-style-type: none"> There has been no overland discharges during the reporting period.
8	<p><i>The total land area that is to be available for the application of treatment wastewater, which comprises duty and 33% reserve area is to be not less than 2.095 hectares at all times.</i></p> <ul style="list-style-type: none"> The duty area available is 1.27ha.



Conditions Comments	
	<ul style="list-style-type: none"> The reserve area is 1.896ha.
9	<p><i>The consent holder shall provide screen plantings or equivalent methodologies around the wastewater treatment plant for purpose:</i></p> <ol style="list-style-type: none"> <i>to soften the visual appearance of the WWTP, and</i> <i>to assist the dispersal of any odour drift potential that may arise.</i> <ul style="list-style-type: none"> Screen plantings are established and maintained.
10 - 13	<ul style="list-style-type: none"> All of the required design parameters are still in place.
14	<p><i>The wastewater treatment tanks shall be de-sludged as necessary and in particular following receipt of notice in writing from the Waikato Regional Council to do so. The sludge waste shall be disposed of in an approved wastewater sludge disposal area.</i></p> <ul style="list-style-type: none"> The tanks are monitored and de-sludged as required.
15	<p><i>The consent holder shall retain and update as necessary a current site management plan for the wastewater treatment and land application system.</i></p> <ul style="list-style-type: none"> An Operations & Management Plan is retained for this site. The Tauwhare Operations & Management Plan was subjected to an initial review by the Watercare team and is attached as Appendix 2 of the 2021-2022 Annual Report.
16	<p><i>The consent holder shall record the volume of wastewater discharged to land on a daily basis (24 hours). The recording device shall have a reliable calibration to flow which shall be maintained to an accuracy of +/- 5%.</i></p> <ul style="list-style-type: none"> The flow is recorded daily via telemetry. The outflow meter was verified in August 2021, certificate is attached in the 2021-2022 Annual Report Appendix.
17	<p><i>The consent holder shall determine the concentration of wastewater contaminants in the treated wastewater discharge by gathering samples for analysis at:</i></p> <ol style="list-style-type: none"> <i>an appropriate point immediately prior to application to land, to determine the concentrations of Total-nitrogen (TN), Nitrate-nitrogen (NO₃-n), Ammoniacal-nitrogen (NH₄-n), Total Phosphorous (TP), 5-day Biochemical Oxygen Demand (BOD₅), Suspended Solids (SS) and Escherichia coliform bacteria numbers (E.coli) at monthly intervals (ie 12 times) throughout the year (refer Note A).</i> <ul style="list-style-type: none"> Please see Appendix 1 spreadsheet data summary.
18	<p><i>The sampling frequency of condition (17) may be reduced to 3 monthly intervals (ie 4 times) throughout the year provided the following is met: At least 24 consecutive sample analyses (2 years/24 mths worth) has been provided, i) all required analysis have been provided, ii) the discharge quality limits of condition 4 have been met, iii) approval to reduce the frequency of effluent sampling has been given in writing by the Waikato Regional Council.</i></p> <ul style="list-style-type: none"> The required dataset is available. Watercare will continue with the sample monthly to meet all requirements of condition 18.
19 - 20	<p><i>The consent holder shall determine the concentration of wastewater contaminants in the groundwater under the application area by gathering samples from:</i></p>



Conditions Comments	
	<ul style="list-style-type: none"> at least 1 groundwater monitoring bore located outside the influence of the discharge and at least 3 monitoring bores located within the influence of the discharge, to determine the concentrations of Total-nitrogen (TN), Nitrate-nitrogen (NO₃-n), Ammoniacal-nitrogen (NH₄-n), Chloride (Cl), Escherichia coliform bacteria numbers (E.coli) and conductivity (COND) at 3 monthly intervals (ie 4 times) throughout the year (refer Note A). <p>The consent holder shall measure the groundwater levels in the monitoring bores at 3 monthly intervals (ie 4 times) throughout the year.</p> <ul style="list-style-type: none"> Please see Appendix 1 spreadsheet data summary. Samples were collected from Bores 1,3 and 4 with the exception of Bore 2 due to no flow available for sampling. This was previously communicated to the WRC and no further actions were required.
21	<p>The monitoring required by conditions 16, 17, 19 & 20 of this consent shall commence and the results provided to the Waikato Regional Council at 6 monthly intervals thereafter (twice per year data provision).</p> <ul style="list-style-type: none"> This data has been recorded and provided to Waikato Regional Council as required.
22	<p>The consent holder shall retain an appropriately experienced person to compile an annual monitoring report. The annual monitoring report shall be to the satisfaction of the Waikato Regional Council and be forwarded to the Waikato Regional Council by 30 September each year.</p> <ul style="list-style-type: none"> Watercare Waikato District employ a Water Quality Scientist to oversee compliance monitoring and reporting requirements. This report is submitted by the Water Quality Scientist with input from the Production, Network and Infrastructure Development teams to satisfy this condition.
23 - 24	<p>The activities authorised by this resource consent shall be undertaken in such a manner that they do not produce an objectionable odour at or beyond the outer boundary of the property to which this resource consent relates (see note B).</p> <ul style="list-style-type: none"> Councils CRM database records all complaints from the public. No complaints were received for the Tauwhare WWTP. Appendix 2 is attached as evidence of a complaints register.
25	<p>The Waikato Regional Council may in October of 2015, 2020 and 2025 (ie 5 yearly intervals) serve notice on the consent holder under section 128(i) of the Resource Management Act 1991, of its intention to commence review of the conditions of this resource consent for the following purposes (see Note C).</p>