

CONSENT SUMMARY REPORT

Consent Name	Ngaaruawaahia Wastewater Treatment System
Consent	119642
Year	1 July 2023 – 30 June 2024
Date	July 2024

NGAARUAWAAHIA WASTEWATER TREATMENT SYSTEM ANNUAL REPORT 2023 - 2024

RC 119642

The Waikato District Council (WDC) holds the above resource consent associated with the treatment and discharge of wastewater from the Ngaaruawaahia wastewater treatment plant (WWTP) to the Waikato River. 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 April 2011 and will expire March 2029.

The conditions issued by Waikato Regional Council include the following:

119642 To discharge up to 11,200 cubic metres per day of treated wastewater from the plant, subject to a number of conditions.

Discharge volumes from the Ngaaruawaahia WWTP were compliant with resource consent limits for 2022-23 compliance period.

Ngaaruawaahia WWTP have achieved the consented discharge quality limits for pH, Total Phosphorous (TP), cBOD5, and E-coli for the complete reporting period (July 2023-June 2024). Non-compliances noted for Ammoniacal Nitrogen, Total Nitrogen, and Total Phosphorous Summer Limit, and combined Huntly-Ngaaruawaahia TN Load for this compliance period.

Appendix 1 – Data Summary

Appendix 2 – Daily Rainfall Data

Appendix 3 – Complaint Summary

Appendix 4 – Dive Survey Report

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OPERATIONAL COMMENTS

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

UPDATES / PLANNED WORKS

Ngaaruawaahia WWTP Project Works:

1. A new screening facility is being progressed through tender.
2. WWTP Interim Upgrade:
 - a. Flow and load surveys and a pilot trial are complete.
 - b. A project plan to install a single process lane to recover compliance has been submitted to WDC, funding approval is pending.
 - c. Assuming the future transfer of flows to Pukete proceeds as planned. The interim process lane will be later relocated TK, to keep ahead of TK's growth in 2030.

Completed works:

- Refurbishment of the gravel beds has been completed.
- The dive team has installed all new diffusers on the final effluent outlet in the river at the Ngaaruawaahia WWTP.

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

COMPLAINTS SUMMARY		JULY 2023 – JUNE 2024	
2023 - 2024		Nil received.	

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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 26 samples in any 52 consecutive weekly 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.

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Data Summary		Jun-2024	RC119642 - Ngaruawahia								
Inflow Summary Reporting		m³									
Average Daily Inflow		1,670									
Max Daily Inflow		4,717									
Average Monthly Total		50,957									
Max Monthly Total		60,079									
Annual Inflow Total		611,488									
PWWF/ADWF Ratio		2.8									
Outflow Summary Reporting		Daily Limit - 11200 m3									
Average Daily Flow		1,531									
Max Daily Flow		3,648									
90th Percentile Daily Flow		3,391									
Average Monthly Total		46,772									
Max Monthly Total		65,387									
Annual Outflow Total		561,269									
Discharge Monthly Tests			Consent Limits		Trigger Limit		Measured		Compliance		
Parameters	Unit	Median	90%ile	Median	90%ile	Median	90%ile	Median	90%ile		
pH		9.0		8.5		7.7					
CBOD5	g/m3	30.0	60.0			17.5	23.6	1 / 12	0 / 12	Compliant	
Ammonical Nitrogen	g/m3	10.0	20.0			28.5	34.7	12 / 12	11 / 12	X	
Total Nitrogen	g/m3	25.0				32.0		12 / 12		X	
Total Nitrogen (Summer Limit Dec-May)	g/m3	20.0				15.0		6 / 6		Compliant	
Total Phosphorus	g/m3	8.0				1.6		0 / 12		Compliant	
Total Phosphorous (Summer Limit Dec-May)	g/m3	8.0				0.1		0 / 6		Compliant	
Total Suspended Solids	g/m3	30.0	100.0			40.7	82.3	7 / 12	0 / 12	X	
E.Coli	CFU/100ml	126.0				4.9		5 / 51		Compliant	
Combined Discharge		Unit	Consent Limit	Trigger Limit		Measured		Compliance			
Summer TN (Huntly & Ngaruawahia)	kg/day	57				57.53		3 / 6		X	
Summer TP (Huntly & Ngaruawahia)	kg/day	17.3				5.75		0 / 6		Compliant	

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JULY 2023 – JUNE 2024

The Ngaaruawaahia Wastewater Treatment Plant has generally operated in compliance with the conditions of Resource Consent 119642. Important matters to note and non-compliances are detailed below against the corresponding summary of the condition. A summary of results are included in the spreadsheet above.

Condition Comments	
4	<p><i>The maximum volume of treated wastewater discharged shall not exceed 11,200 cubic metres per day.</i></p> <ul style="list-style-type: none"> • Compliant - Maximum daily volume discharged during 2022-23 period recorded as 6,012 m³/day.
6	<p><i>The consent holder shall ensure that, no later than 1 December 2012, the quality of the discharge immediately prior to entering the rock-lined channel shall comply with the following limits:</i></p> <p>i) <i>The pH of the discharge shall not be less than 6 or greater than 9 pH units;- Compliant – 7.7</i></p> <p>ii) <i>The median 5 day carbonaceous biochemical oxygen demand concentration shall not exceed 30 grams per cubic metre and the 90th percentile shall not exceed 60 grams per cubic metre;- Compliant – Median 17.5 g/m³, 90th percentile 23.6 g/m³</i></p> <p>iii) <i>The median suspended solids concentration shall not exceed 30 grams per cubic metre and the 90th percentile shall not exceed 60 grams per cubic metre;- Non-Compliant – Median 40.7 g/m³, 90th percentile 82.3 g/m³</i></p> <p>iv) <i>The median ammoniacal-nitrogen concentration shall not exceed 10 grams per cubic metre and the 90th percentile shall not exceed 20 grams per cubic metre; Non-compliant – Median 28.5 g/m³, 90th percentile 34.7 g/m³</i></p> <p>v) <i>The median total nitrogen concentration shall not exceed 25 grams per cubic metre;- Non-Compliant – Median 32 g/m³</i></p> <p>vi) <i>The median summer (December to May inclusive) total nitrogen (TN_{summer}) concentration shall not exceed 20 grams per cubic metre;- Compliant – 15 g/m³</i></p> <p>vii) <i>The median summer (December to May inclusive) total nitrogen load (TN_{load}) for Ngaaruawaahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 57 kilograms per day; - Non-Compliant – median 57.53 kg/day</i></p> <p>viii) <i>The median total phosphorus (TP) concentration shall not exceed 8 grams per cubic metre; - Compliant – 1.6 g/m³</i></p> <p>ix) <i>The median summer (December to May inclusive) total phosphorus (TP_{summer}) concentration shall not exceed 8 grams per cubic metre; - Compliant – 01 g/m³</i></p> <p>x) <i>The median summer (December to May inclusive) total phosphorus load (TP_{load}) for Ngaaruawaahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 17.3 kilograms per day; - Compliant – 5.75 kg/day</i></p> <p>xi) <i>The median Escherichia coli (E.coli) concentration shall not exceed 126 cfu per 100 millilitres. – Compliant – median 4.9 CFU/100ml</i></p> <ul style="list-style-type: none"> • Please see Appendix 1 for summary of resource consent monitoring results.

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10 - 12	<p><i>These conditions relate to trigger limits and the need to complete the following if these limits are exceeded: “design, build and commission the appropriate upgrade to the treatment process within two years after the “trigger” level is reached. The upgrade undertaken shall be designed to reduce the median concentration for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter.</i></p> <p>Ngaaruawaahia WWTP Project Works:</p> <ol style="list-style-type: none"> 3. A new screening facility is being progressed through tender. 4. WWTP Interim Upgrade: <ol style="list-style-type: none"> d. Flow and load surveys and a pilot trial are complete. e. A project plan to install a single process lane to recover compliance has been submitted to WDC, funding approval is pending. f. Assuming the future transfer of flows to Pukete proceeds as planned. The interim process lane will be later relocated TK, to keep ahead of TK's growth in 2030. <p>Completed works:</p> <ul style="list-style-type: none"> ▪ Refurbishment of the gravel beds has been completed. ▪ The dive team has installed all new diffusers on the final effluent outlet in the river at the Ngaaruawaahia WWTP.
13	<p><i>Unless otherwise agreed with the Waikato Regional Council in writing, the consent holder shall ensure that the treatment system is upgraded in accordance with the application documentation to the satisfaction of Waikato Regional Council.</i></p> <ul style="list-style-type: none"> • Please see above comments
14	<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"> • Daily influent and discharge volumes are recorded through the SCADA network and reported via Water Outlook.
15	<p><i>The consent holder shall continuously monitor and record rainfall at the site on a daily basis.</i></p> <ul style="list-style-type: none"> • An on-line weather station is installed at the Ngaaruawaahia WWTP providing telemetered data to the SCADA system. Rainfall data is attached as Appendix 2.
16	<p><i>The consent holder shall, prior to January each year, calculate the ratio of daily Peak Wet Weather Flow (PWWF) to Average Dry Weather Flow (ADWF). Where the ratio of PWWF to ADWF exceeds 4.5, the consent holder shall prepare an Infiltration Management Plan and provide this to Waikato Regional Council for review prior to implementation. For the purposes of this condition, calculation of ADWF will be taken as the median daily wastewater flow measured at the inlet to the oxidation pond during the month of March for the preceding year.</i></p> <ul style="list-style-type: none"> • The ratio of daily Peak Wet Weather Flow to Average Dry Weather Flow was calculated to be 2.8 for the period of 01 Jul 2023 - 31 Jun 2024 PWWF.

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17-18	<p><i>The consent holder shall define a sampling location or locations and the sampling method or methods to be used for monitoring the parameters in conditions 5 and 6. The location(s) and method(s) used for sampling shall be to the satisfaction of Waikato Regional Council.</i></p> <p><i>The consent holder shall take grab samples of the treated wastewater on a monthly basis, from the sampling location specified in condition 17 of this consent, for the purpose of determining compliance with condition 5 and 6 E.coli grab samples shall be taken on a weekly basis.</i></p> <ul style="list-style-type: none"> • Sampling results available - Please see Appendix 1.
20 - 21	<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 system is to be operated and maintained to ensure compliance with the conditions of this consent and consent 119643, 119644 and 119645.</i></p> <ul style="list-style-type: none"> • An Operations & Management Plan has been prepared for this site. The Ngaaruwaahia Operations & Management Plan was subjected to an initial review by the Watercare team and was submitted to the WRC in June 2024.
22	<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.
23	<p><i>In conjunction with consent 119642 the consent holder shall maintain and keep a Complaints Register.</i></p> <ul style="list-style-type: none"> • Councils CRM database records all complaints from the public. No complaints were received for the Ngaaruwaahia WWTP. Appendix 3 is attached as evidence of a complaints register.
24 - 26	<p><i>The consent holder is responsible for appropriate signage, maintaining plantings and managing any necessary erosion works in conjunction with Ngaaruwaahia wastewater treatment system.</i></p> <ul style="list-style-type: none"> • Appropriate signage is in place. Dive reports dated 10th November 2021 confirmed that warning signage was visible to all river users and that at least four ports of the diffuser were operational. • Watercare maintain all plantings at the wastewater sites. • There are no current issues regarding erosion at the Ngaaruwaahia discharge site.
30	<p><i>The consent holder shall undertake a survey of the diffuser at six monthly intervals.</i></p> <ul style="list-style-type: none"> • Dive surveys are undertaken as required. Last survey completed was in April 2024 and is attached as Appendix 4.
31	<p><i>The consent holder shall forward the results of the monitoring undertaken pursuant to conditions 14, 15 and 18 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 are forwarded monthly to WRC.

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32	<p><i>The consent holder shall provide to the Waikato Regional Council, Waikato-Tainui Te Kauhanganui Incorporated (Claims and Environment Unit) and Hopuhopu Manawhenua Roopu a written report by 30 September. A quarterly report shall be prepared and distributed at the end of March, June and December each year.</i></p> <ul style="list-style-type: none"> • This report and appendices are submitted in compliance with this condition.
33	<p><i>The consent holder shall notify the Waikato Regional Council within 24 hours (where practicable) of the consent holder becoming aware of the limits specified in conditions 4, 5 and 6 of this resource consent being 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 and monthly updates to address any non-compliances.
34	<p><i>The consent holder shall as soon as reasonably practicable, notify the Waikato District Council (Service Delivery, Water and Waste), Watercare Services Ltd and the Waikato Regional Council of an event that may in itself, or as a consequence of an event, have a significant adverse effect on the quality of the water within the Waikato River at the abstraction points of the Hopuhopu, Huntly, Te Kauwhata and Tuakau (Auckland) Water Supplies.</i></p> <ul style="list-style-type: none"> • There were no instances of events that had a significant adverse effect on the water quality of the Waikato River such that water abstraction parties required notification.
35 – 37	<p><i>The consent holder shall, by 30 September 2015 and every five years thereafter, submit to Waikato Regional Council, a Wastewater Treatment Review Report.</i></p> <ul style="list-style-type: none"> • Refer to audit response <i>Re: Ngāruawāhia wastewater treatment plant operations and upgrade – UPDATE</i> addressed to Hugh Keane in February 2022.