

CONSENT SUMMARY REPORT

Consent Name	Huntly Wastewater Treatment System
Consent	119647
Year	1 July 2023 – 30 June 2024
Date	July 2024

HUNTLY WASTEWATER TREATMENT SYSTEM ANNUAL REPORT 2023 - 2024

RC 119647

The Waikato District Council (WDC) holds the above resource consents associated with the treatment and discharge of wastewater from the Huntly wastewater treatment plant (WWTP) to Waikato River. WDC in conjunction with Watercare Services Limited operates the facility under the resource consents issued by Waikato Regional Council. The consent was issued in April 2011 and will expire March 2029.

The conditions issued by Waikato Regional Council include the following:

119647 To discharge up to 11,500 cubic metres per day of treated wastewater from the plant after treatment subject to a number of conditions.

Discharge volumes from the Huntly WWTP were compliant with resource consent limits for 2023-24 compliance period.

Huntly WWTP has achieved the consented discharge quality limits for pH, Total Phosphorous (TP), Total Nitrogen (TN), cBOD5, ammoniacal nitrogen, and E-coli for the complete reporting period (Jul 23-Jun24). Non-compliant with the combined Huntly-Ngaruawahia TN Load and Total Suspended Solids (TSS) with 8 out of 12 monthly samples exceeded the consented median.

Appendix 1 – Data Summary Spreadsheet

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 twice a week.

FUTURE WORKS

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| <ul style="list-style-type: none"> See comments below against conditions 10-12. |
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EVENT SUMMARY	JULY 2023 – JUNE 2024
2023 – 2024	<ul style="list-style-type: none"> All events notified to WRC

COMPLAINTS SUMMARY	JULY 2023 – JUNE 2024
2023 – 2024	<ul style="list-style-type: none"> 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	RC119647 - Huntly
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Inflow Summary Reporting	m ³
Average Daily Inflow	2,582
Max Daily Inflow	7,111
Average Monthly Total	78,784
Max Monthly Total	109,256
Annual Inflow Total	945,405
PWWF/ADWF Ratio	2.8

Outflow Summary Reporting	Daily Limit - 11500 m3
Average Daily Flow	2,300
Max Daily Flow	4,913
90th Percentile Daily Flow	4,520
Average Monthly Total	70,282
Max Monthly Total	111,073
Annual Outflow Total	843,380

Discharge Monthly Tests Parameters	Unit	Consent Limits		Trigger Limit		Measured		Compliance		
		Median	90%ile	Median	90%ile	Median	90%ile	Median	90%ile	
pH		9.0		8.5		7.6		0 / 12		Compliant
CBOD5	g/m3	30.0	60.0			9.4	11.9	0 / 12	0 / 12	Compliant
Ammonical Nitrogen	g/m3	10.0	20.0			0.5	19.5	5 / 12	2 / 12	Compliant
Total Nitrogen	g/m3	25.0				6.5		2 / 12		Compliant
Total Nitrogen (Summer Limit Dec-May)	g/m3	20.0				2.2		0 / 6		Compliant
Total Phosphorus	g/m3	8.0				1.7		0 / 12		Compliant
Total Phosphorous (Summer Limit Dec-May)	g/m3	8.0				0.3		0 / 6		Compliant
Total Suspended Solids	g/m3	30.0	100.0			42.4	79.8	8 / 12	1 / 12	X
E.Coli	CFU/100ml	126.0				48.0		10 / 52		Compliant

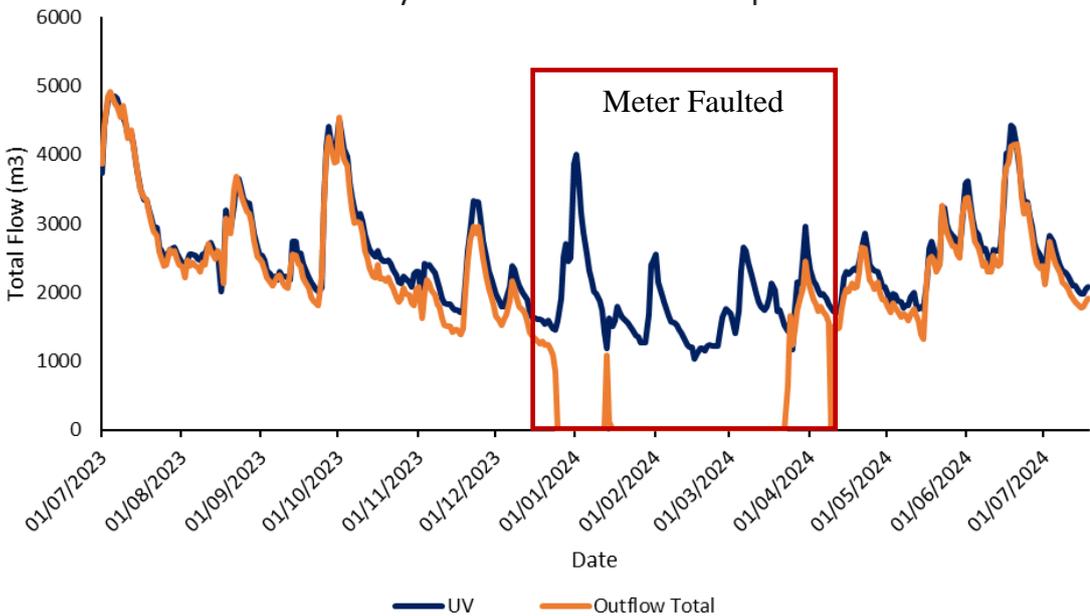
Combined Discharge	Unit	Consent Limit	Trigger Limit	Measured	Compliance	
Summer TN (Huntly & Ngaruawahia)	kg/day	57		57.53	3 / 6	X
Summer TP (Huntly & Ngaruawahia)	kg/day	17.3		5.75	0 / 6	Compliant

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The Huntly WWTP has generally operated in compliance with the conditions of Resource Consent 119647. Important matters to note and non-compliances are detailed below against the corresponding consent condition. A summary of results are included in the spreadsheet above.

Conditions Comments	
4	<p><i>The maximum volume of treated wastewater discharged shall not exceed 11,500 cubic metres per day.</i></p> <ul style="list-style-type: none"> Compliant - Maximum daily volume discharged from Huntly WWTP is 8,013 m³/day (please see above summary and Appendix 1). Note* Huntly WWTP experienced a discharge flow meter fault from December 2023 – March 2024, once a new meter was in stock it was immediately replaced. Because of this, the UV Flow meter data has been used in place of the data gap from December 24th 2023, to March 23rd 2024. As seen in the below graph, the UV Flow trends in parallel to the Outflow Meter, any slight strays from the outflow meter are due to the time buffer post UV through the rock filter and wetlands prior to final discharge. <p style="text-align: center;">Huntly WWTP Flow Meter Comparison</p>  <p style="text-align: center;">Date</p> <p style="text-align: center;">— UV — Outflow Total</p>
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> <ol style="list-style-type: none"> <i>The pH of the discharge shall not be less than 6 or greater than 9 pH units;-</i> Compliant – Measured median 7.6 <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;-</i> Compliant – Measured Median 9.4g/m³

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	<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;-</i> Non-Compliant – Measured median 42.4 g/m³</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;-</i> Compliant – Measured median 0.5 g/m³</p> <p>v) <i>The median total nitrogen concentration shall not exceed 25 grams per cubic metre;-</i> Compliant – Measured median 6.5 g/m³</p> <p>vi) <i>The median summer (December to May inclusive) total nitrogen (TN_{summer}) concentration shall not exceed 20 grams per cubic metre;-</i> Compliant – Measured Median 2.2 g/m³</p> <p>vii) <i>The median summer (December to May inclusive) total nitrogen load (TN_{load}) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 57 kilograms per day;-</i> Non-Compliant – Measured load 57.53 kg/day</p> <p>viii) <i>The median total phosphorous (TP) concentration shall not exceed 8 grams per cubic metre;-</i> Compliant – Measured Median 1.7 g/m³</p> <p>ix) <i>The median summer (December to May inclusive) total phosphorus (TP_{summer}) concentration shall not exceed 8 grams per cubic metre;-</i> Compliant – Measured Median 0.3 g/m³</p> <p>x) <i>The median summer (December to May inclusive) total phosphorus load (TP_{load}) for Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant combined shall not exceed 17.3 kilograms per day;-</i> Compliant – Measured Median 3.31 kg/day</p> <p>xi) <i>The median Escherichia coli (E.coli) concentration shall not exceed 126 cfu per 100 millilitres.-</i> Compliant – Measured Median 48 cfu/100mL</p> <p><i>The Huntly WWTP had non-compliance for the median Total suspended solids limit and the median summer (December to May inclusive) total nitrogen load (TN_{load}) for the combined Ngaruawahia Wastewater Treatment Plant and Huntly Wastewater Treatment Plant. Long term and interim upgrades are in the planning stages for the Huntly WWTP that will address the non-compliances.</i></p>
9	<p><i>At least one month prior to decommissioning the gravel filters, the consent holder shall provide a Management Plan to the Waikato Regional Council which details as a minimum how the decommissioning works and construction of the rock-lined channel will be undertaken, the design plan for the rock-lined channel, and how compliance will be achieved with condition 8.</i></p> <ul style="list-style-type: none"> • <i>The Huntly WWTP Gravel Beds Modifications Plan and associated documents were provided to WRC on 30 May 2014.</i>
10 – 12	<p><i>These conditions relate to trigger limits and the need to complete the following if these limits are exceeded:</i></p> <p><i>“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</i></p>

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	<p><i>concentration for the parameter for which the trigger was reached to less than 80% of the consented limit for that parameter.</i></p> <ul style="list-style-type: none"> • Proposed interim upgrades under design: <ol style="list-style-type: none"> 1. A new discharge pump station 2. Duplicate UV treatment 3. Install a new weir to enable Pond 2 to operate at a lower level, improving the flow buffering during a storm event • For long term upgrades, the following initial designs are underway: <ul style="list-style-type: none"> • Concept design of the main MBR 2028/29 Liquid Stream Upgrade • Temporary MABR Plant Trial for Pond flow • A power supply and inlet screen upgrade • An outfall pump station upgrade <p>The MBR concept design is scheduled to complete June-July 2024.</p>
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 summary.
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"> • Compliant - Daily inflows and outflows recorded in Water Outlook. • Huntly WWTP experienced a fault with the discharge flow meter in December 2023. the service technicians found that a non-submersible pump had been submerged for some time which has damaged the internal coils which resulted in the meter no longer reading. It has since been replaced and is operational.
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 Huntly 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"> • Compliant – Please see Appendix 1.
17	<p><i>The consent holder shall undertake an investigation into the extent and magnitude of ammoniacal-nitrogen in the wastewater discharge plume in the Waikato River during low flow conditions. Sampling of ammoniacal-nitrogen shall as a minimum, be conducted mid-column at six sites below the discharge outfall on three occasions over the summer period (when flows are low). The frequency of monitoring</i></p>

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	<p><i>may be reviewed after a minimum of three years of data has been collected, upon request to and approval by a Programme Manager in the Resource Use Group of Waikato Regional Council.</i></p> <ul style="list-style-type: none"> • This programme commenced during the 2012/13 summer and was followed up in the 2013/14 and 2014/15 summers. A full report was submitted to WRC on 30 May 2014. • The 2014 and 2015 reports concluded that: <ul style="list-style-type: none"> ○ The Huntly WWTP discharge was not causing any marked increase in the ammoniacal-nitrogen concentrations at the time of sampling, during low river flow. ○ The discharge plume ammoniacal-nitrogen concentrations were well below the Waikato Regional Plan standards. ○ In 2018-19 Annual report to WRC, WDC requested to cease testing based on findings of the reports. • 2018-19 Audit report from WRC have stated that WRC have given permission to suspend the sampling for ammoniacal nitrogen in the river until further notice.
18-19	<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 locations(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.
21 - 22	<p><i>The treatment system and discharge to the Waikato River shall be operated, maintained and managed by appropriately experienced personnel in accordance with the Operations and Management Plan pursuant to condition 21 of this consent.</i></p> <ul style="list-style-type: none"> • An Operations & Management Plan is retained for this site. The Huntly Operations & Management Plan was subjected to an initial review by the Watercare team and is attached in the 2021-2022 Annual Report. A revised version was attached as Appendix 5 in the 2022-23 Report. • The initial review and the detailed review cover the incorporated odour management plan to ensure it is still relevant and aligns with the current on-site processes.
23	<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.
24	<p><i>In conjunction with consent 119647 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 Huntly WWTP. Appendix 3 is attached as evidence of a complaints register.

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25	<p><i>The consent holder shall place and maintain a sign in the vicinity of the discharge to the Waikato River, in such a way that it is conspicuous to river users, advertising of the presence of the wastewater discharge and warning against the use of the location for swimming.</i></p> <ul style="list-style-type: none"> • A sign is located in the vicinity of the discharge that alerts and warns people of the presence of the wastewater discharge.
26	<p><i>The consent holder shall be responsible for any erosion that occurs as a result of the exercise of this consent and for any erosion works that become necessary to preserve the integrity and stability of the banks of the Waikato River.</i></p> <ul style="list-style-type: none"> • There are no reported issues regarding erosion at the Huntly discharge site.
27 - 30	<p><i>The discharge to the Waikato River shall be via a multi-port diffuser located on the bed of the Waikato River. Ports 2, 4, 6 and 8 of the diffuser, as numbered from the true right bank of the Waikato River shall remain closed unless specifically permitted in writing by the Waikato Regional Council. The consent holder shall maintain the outfall diffuser in an operational state such that the discharge from ports 1, 3, 5, 7 and 9 is uniform along the operational length of the diffuser and providing effective dispersion of the wastewater in the river flow. The consent holder shall undertake a survey of the diffuser at six monthly intervals to demonstrate compliance with conditions 28 and 29 of this consent.</i></p> <ul style="list-style-type: none"> • The Huntly discharge is via a multi-port diffuser. Ports 2, 4, 6 and 8 are blocked off. • Huntly discharge diffuser dive Surveys last completed in October 2023 and April 2024. Dive survey report attached as Appendix 4.
31	<p><i>The consent holder shall forward the results of the monitoring undertaken pursuant to conditions 14, 15,17 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"> • Monthly Reports from Water Outlook are forwarded to WRC with comments/investigation details included for any non-compliances noted in the report.
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.</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. • Water Outlook reporting has allowed monthly discharge quality reporting to be automated.
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 as necessary and monthly updates to address any non-compliances.

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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"> • Water abstraction parties are notified of discharges to the Kimihia Stream
35	<p><i>The consent holder shall monitor the actual performance of the Huntly WWTP in respect to the median summertime mass-load of nutrients and of the Huntly WWTP in respect of all other parameters for the period 1 December 2012 to 31 May 2015 (three summer seasons).</i></p> <ol style="list-style-type: none"> <i>i) Immediately following 31 May 2015 the consent holder shall review the performance and review the options for upgrading the treatment processes, all in consultation with Waahi Whaanui Trust and Waikato-Tainui Kauhanganui Inc. The preferred upgrade option shall be determined and reported to Waikato Regional Council not later than 31 October 2015.</i> <i>ii) The preferred upgrade option shall be constructed and commissioned not later than 30 November 2016.</i> <i>iii) The 2015 review shall include consideration of the future of both the surface-flow and the subsurface-flow wetland cells, based on the monitored performance and the decision in relation to the preferred upgrade option, all in consultation with Waahi Whaanui Trust and Waikato-Tainui Kauhanganui Inc.</i> <i>iv) The 2015 review shall also give consideration to the ongoing appropriateness of the median combined summertime mass-load limits for Total Nitrogen and Total Phosphorous from Huntly WWTP, taking account of the actual performance of the two plants from 1 December 2012 to 31 May 2015 and any changes in the environmental objectives for the Waikato River after 31 March 2011.</i> <i>v) Recommendation whether the wetlands should remain in the treatment process or be decommissioned and the reasons for this decision.</i> <i>vi) A plan for the decommissioning or alteration of the wetland, should the conclusion be that the wetlands should be decommissioned or altered in some way.</i> <ul style="list-style-type: none"> • The combined mass loadings were compliant with the consented limits.
36 - 38	<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"> • The first treatment review report was completed on the 29 September 2015. • In 2021 Preliminary engineering optioneering studies have been completed: <ul style="list-style-type: none"> • Technical Report: Huntly WWTP Concept Design Report (<i>WaiWSL006-R01-2, 11/08/2021</i>) • Technical Report. Huntly WWTP – Pond Profiling and Phase I Recommendations Report (<i>WaiWSL010-R01-1, 10 August 2021</i>)