

CONSENT SUMMARY REPORT

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|------------------|------------------------------------|
| Consent Name | Raglan Wastewater Treatment System |
| Resource Consent | 971390 |
| Year | 1 July 2023 – 30 June 2024 |
| Date | July 2024 |

RAGLAN WASTEWATER TREATMENT SYSTEM

ANNUAL REPORT 2023 - 2024

RC 971390, 971391 & 971392

The Waikato District Council (WDC) holds the above resource consent associated with the treatment and discharge of wastewater from the Raglan wastewater treatment plant (WWTP) to the Raglan Harbour. The consent was issued on February 2005, where a renewal 2020 application was received and accepted by the Regional Council. This application preserves legal operation, where a S92 request is outstanding.

The conditions issued by Waikato Regional Council include the following:

971390 To discharge up to 2,600m³ per day of treated wastewater from the plant after treatment subject to a number of conditions.

The average daily discharge of treated effluent was 1,095 m³ and the maximum daily discharge of treated effluent was 2,250m³ over the reporting period.

During the 2023-2024 monitoring period, Raglan WWTP noted to have exceeded the consented limits for Faecal Coliforms, cBOD5, Enterococci, and TSS. Comments on investigation were provided in the monthly updates.

Appendix 1 – Data Summary

Appendix 2 – Complaint Summary

Appendix 3 – Dive Survey Report

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OPERATIONAL COMMENTS

Septage Receiver: Not in service.

Staff Maintenance Visits: Site visits are carried out once a weekly.

| EVENT SUMMARY | | JULY 2023 - JUNE 2024 | |
|---------------|---|-----------------------|--|
| 2023-2024 | All events including the below were investigated and notified to WRC. <ul style="list-style-type: none"> ▪ 10/10/2024, 25/10/2023, 26/10/2023 - Programming faults with the PLC resulted in unplanned out of hours discharges on the incoming tide. ▪ 8/12/2023 – UV fault resulted in an out of hours a manual discharge without UV. | | |

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

FUTURE WORKS

Raglan WWTP:

- Consent: The 2020 application is still in place, preserving the legal operation and discharge of the Raglan Wastewater Treatment Plant (WWTP) under Section 124 of the RMA.

SDI investigations:

- As previously reported, in an effort to secure a non-marine treated wastewater discharge solution for the Raglan community, extensive investigations have been ongoing across various sites within Raglan for land subsurface drip irrigation (SDI). A site on Mangatawhiri Road was assessed in 2023 and found to be a potentially viable option for SDI. Concept design and costing were completed, revealing that the costs of pumping and conveying the treated wastewater from the WWTP to the site required substantially higher funding than budgeted; however, it remains a potential option at this stage.

Plant upgrades:

- Occurring in parallel to the discharge optioneering and investigation have been the upgrade works to the WWTP. The installation of a membrane bioreactor (MBR) was chosen as the preferred upgrade solution for the plant due to its ability to produce high-quality effluent, compact design, operational efficiency, and ability to comply with stringent discharge standards. The MBR plant is currently under construction and will be operational in the next 12 months. The current WWTP ponds will remain with the potential to provide emergency storage.

Alternative Discharge Solution Optioneering:

- With the significant upgrade of the plant to MBR treatment and the high-quality discharge that will be produced, alternative discharge options to SDI were reconsidered. Three conceptual options were prepared that explored alternative point source discharge solutions to land on the Wainui Reserve western gully (Option 1), Wainui Reserve eastern gully (Option 2), and to water via a split discharge to Wainui Stream as primary and to the harbour outfall as secondary during peak flows (Option 3). For all options, the treated wastewater stream would first enter a naturalised rock channel with native vegetation planting. Mana whenua feedback on the options found Option 1 to be the favorable discharge solution that provided land contact of the discharge stream and environmental enhancement of the gully as part of the proposal, Tainui O Tainui confirmed their support for Option 1.

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Key next steps:

- Technical investigations are currently being planned to further understand the Option 1 discharge area and assess any potential effects of the proposal on the environment, along with the progression of concept design. All three discharge options have been priced for comparison.
- Initial engagement with Waikato District Council Service Delivery Department, Open Spaces Manager, and ecologist has been held. The Open Spaces Manager was open to working with the team on the preferred solution and had no objection to the use of Wainui Reserve if correct process and approvals were followed, specifically, it is important that the preferred option does not impact the recreational or ecological values of the reserve. Engagement with the Open Spaces team is ongoing as work progresses. Ongoing engagement is planned with Tainui O Tainui, Ngāti Māhanga, and the Raglan community.
- On the basis that technical assessments and the ongoing engagement process find Option 1 to remain as the preferred option, a new consent application for the discharges associated with the WWTP is expected to be lodged with WRC within in the next six-eight months.

Recent Works:

- The plant upgrade will return the process to compliance. The reactor tank base is complete, and the wall construction is underway. The detailed M&E plant design has been submitted, and returned comments are being actioned. Construction of the sewer pipework will follow, followed by forming the building and screening platform.



Raglan WWTP MBR Upgrade– The reactor tank foundation is complete and the wall installation is underway.

- *Watercare Waikato Infrastructure Development Team.*



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To determine compliance with the median limits (except enterococci), 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 median limit. To determine compliance with the median enterococci limit, no more than one sample of six 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 table above, 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 | RC971390 - Raglan | | | | | | | | |
|----------------------------------|------------------|------------------------------|-----------------------|--------|----------------------|--------|----------------------|---------|----------------------|-----------|--|
| Inflow Summary Reporting | | m³ | | | | | | | | | |
| Average Daily Inflow | | 494 | | | | | | | | | |
| Max Daily Inflow | | 2,005 | | | | | | | | | |
| Average Monthly Total | | 15,113 | | | | | | | | | |
| Max Monthly Total | | 23,095 | | | | | | | | | |
| Annual Inflow Total | | 181,359 | | | | | | | | | |
| PWWF/ADWF Ratio | | 4.1 | | | | | | | | | |
| Outflow Summary Reporting | | Daily Limit - 2600 m3 | | | | | | | | | |
| Average Daily Flow | | 1,095 | | | | | | | | | |
| Max Daily Flow | | 2,250 | | | | | | | | | |
| 90th Percentile Daily Flow | | 2,171 | | | | | | | | | |
| Average Monthly Total | | 33,418 | | | | | | | | | |
| Max Monthly Total | | 43,271 | | | | | | | | | |
| Annual Outflow Total | | 401,021 | | | | | | | | | |
| 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 | | | 18.5 | 24.6 | 11 / 12 | 4 / 12 | X | |
| Total Suspended Solids | g/m ³ | 20.0 | 30.0 | | | 60.5 | 96.2 | 11 / 12 | 11 / 12 | X | |
| Feacal Coliform | CFU/100ml | 14.0 | 43.0 | | | 19.5 | 283.4 | 7 / 12 | 3 / 12 | X | |
| Enterococci | CFU/100ml | | 35.0 | | | 4.9 | 108.0 | | 3 / 15 | Compliant | |

Note* In December a false reading occurred during the discharge meter verification which caused a spike due to flow simulation which made the daily total 6,355 m³ on 14/12/2023. A daily average of 1045 m³ from the month of December has been used for this date in the data summary above. Please see Condition 8 comments below for more details

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JUNE 2023 – JULY 2024

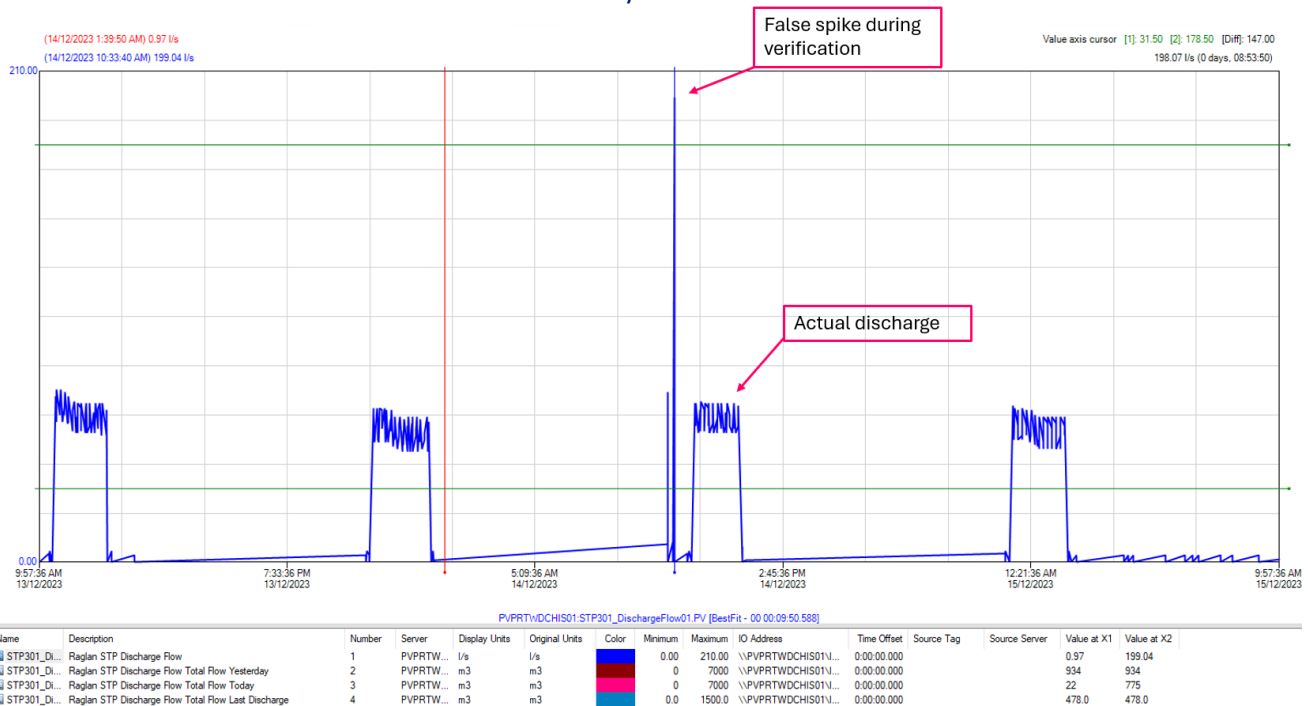
Important matters to note and non-compliances are detailed below against the corresponding consent condition. A summary of results are included in the spreadsheet above

| Conditions Comments | |
|---------------------|---|
| 2 | <p><i>Suitable fencing shall be installed and maintained to ensure that livestock are at all times unable to access the wastewater treatment site.</i></p> <ul style="list-style-type: none"> The site is suitably fenced to exclude livestock from accessing the wastewater treatment site. |
| 4 & 6 | <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 consents 971390 and 971392.</i></p> <p><i>The management plan shall be reviewed and updated by the consent holder as a minimum at 1-year intervals. The consent holder shall provide opportunities to the Tainui Hapu to comment on any proposed changes to the plan. Any proposed changes to the plan shall be submitted in writing for approval by the Waikato Regional Council.</i></p> <p><i>The consent holder shall undertake the treatment and disposal of wastewater in accordance with the approved management plan.</i></p> <p><i>The consent holder shall provide the Waikato Regional Council with a contingency plan that assesses the environmental hazards associated with potential discharge of wastewater from the wastewater treatment site and marine outfall.</i></p> <ul style="list-style-type: none"> An Operations & Management Plan is retained for this site. The Raglan Operations & Management Plan was subjected to review by Watercare and submitted to the Waikato Regional Council in December 2023. A new Operations & Management Plan will be completed following the plant upgrades. |
| 5 | <p><i>The Waikato Regional Council may in September 2006, September 2008, September 2010, September 2012 and September 2014, after consultation with the consent holder, serve notice on the consent holder of its intention to review the conditions of this resource consent:</i></p> <ul style="list-style-type: none"> No notice to review has been received. |
| 7 | <p><i>The consent holder shall keep complaints register for all complaints regarding all aspects of operations at the wastewater treatment facility received by the consent holder.</i></p> <ul style="list-style-type: none"> Councils CRM database records all complaints from the public. No complaints were received for the Raglan WWTP. Appendix 2 is attached as evidence of a complaints register. |

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Conditions Comments

- 8 *The maximum volume of treated wastewater discharged shall not exceed 2,600 cubic metres in any 24 hour period.*
- Compliant - The maximum daily discharge volume from the wastewater treatment plant recorded was 2,250 m³.
 - Note***- In December a false reading occurred during the discharge meter verification which caused a spike due to flow simulation which made the daily total 6,355 m³ on 14/12/2023. As seen from the below trend this spike caused a false reading that was not associated with the actual daily discharge. For the annual report calculations, a daily average of 1045 m³ from the month of December has been used for this date in the 2023-24 data summary.



- 9 *A water flow meter shall be installed to record the quantity of treated wastewater discharged on a cumulative basis per tidal period. The meter shall be calibrated to ensure measurement of treated wastewater flow is maintained to an accuracy of +/- 2%. Access to the meter shall be provided to Waikato Regional Council staff at all reasonable times. The flow meter display panel shall be visible to the public.*

- A meter is installed to record quantities of effluent discharged. A flow display panel visible to the public is installed on the roadside wall of the UV building.

- 10 *The consent holder shall maintain a record of the daily volume of treated wastewater discharged from the treatment system which shall be made available to the Waikato Regional Council at all reasonable times and these records shall be forwarded to the Waikato Regional Council on a three-monthly basis. Records have been provided.*

- WaterOutlook reporting at Council has allowed this process to be automated.

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| Conditions Comments | |
|---------------------|---|
| 11 | <p><i>The discharge of treated wastewater shall occur for a maximum of 5.5 hours per outgoing tide. The discharge may commence no earlier than 0.5 hours before high tide and shall cease no later than 1 hour before low tide. Provided that for not more than 20 days per year immediately after extreme weather, pumping hours may exceed that maximum discharge duration of 5.5 hours per tide.</i></p> <ul style="list-style-type: none"> The treatment team have automated the system so that the pumps logic is set using an algorithm dictated by the NIWA tide charts. <p>The below events were investigated and notified to the WRC.</p> <ul style="list-style-type: none"> 10/10/2024, 25/10/2023, 26/10/2023 - Programming faults with the PLC resulted in unplanned out of hours discharges on the incoming tide. 8/12/2023 – UV fault resulted in an out of hours a manual discharge without UV. |
| 12 | <p><i>The consent holder shall maintain a record of the date and time each discharge cycle commences and finishes which shall be made available to the Waikato Regional Council upon request and these records shall be forwarded to the Waikato Regional Council on a three monthly basis.</i></p> <ul style="list-style-type: none"> This data is recorded in the SCADA system. SCADA trends can be provided to support accurate run times. |
| 13 | <p><i>There shall be no discharge of oil or grease or persistent surface foam as a result of the exercise of this consent.</i></p> <ul style="list-style-type: none"> None reported for this period. |
| 14 | <p><i>The consent holder shall ensure that, no later than 2 years after the date of commencement of this consent, the suspended solids level does not exceed a median level of 20 grams per cubic metres for 12 consecutive monthly samples (one sample per month) and a maximum of 30 grams per cubic metre for 9 of 10 consecutive monthly samples (one sample per month).</i></p> <ul style="list-style-type: none"> The Raglan WWTP continues to be non-compliant for suspended solids. Median measured at 60.5 g/m³, 90th percentile measured at 96.2 g/m³. Please see the data summary and future works update above. |
| 15 | <p><i>The consent holder shall ensure that, no later than 2 years after the date of commencement of this consent, the 5-day biochemical oxygen demand (BOD₅) concentration of the discharge does not exceed a median level of 10 grams per cubic metre of 12 consecutive monthly samples (one sample per month) and a maximum of 20 grams per cubic metre for 9 of 10 consecutive monthly samples (one sample per months).</i></p> <ul style="list-style-type: none"> Non-Compliant – Please see the data summary above (Appendix 1). Measured median 18.5 g/m³ 90th percentile 24.6 g/m³ |

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| Conditions Comments | |
|---------------------|--|
| 16 | <p><i>The consent holder shall ensure that, no later than 2 years after the date of commencement of this consent, the concentration of faecal coliforms in the discharge does not exceed a median level of 14 (number per 100 millilitres) for 12 consecutive monthly samples (one sample per month) and a maximum of 43 (number per 100 millilitres) for 9 of 10 consecutive samples (one sample per month).</i></p> <ul style="list-style-type: none"> • Non-Compliant - Please see the data summary above (Appendix One) • Measured median is compliant: 19.5 cfu/100mL. • 90th percentile is non-compliant 283.4 cfu/100mL. |
| 17 | <p><i>The consent holder shall monitor the concentration of enterococci in the discharge at weekly intervals from 15 December to 30 January. The consent holder shall ensure that, no later than 2 years after the date of commencement of this consent, the concentration of enterococci in the discharge is less than 35 enterococci per 100 millilitres of 5 of 6 consecutive weekly samples (one sample per week).</i></p> <ul style="list-style-type: none"> • Compliant - Please see the data summary (Appendix 1). • The consented limits for Enterococci were achieved for the compliance monitoring period (December 2023 to January 2024) with only 3 of 15 consecutive weekly samples exceeding. • Measured median is compliant: 4.9 cfu/100mL • Measured 90th percentile of 108 cfu/100mL over the period of monitoring. • The sampling dates for the Enterococci monitoring is stipulated in the attached data summary spreadsheet (Appendix 1). |
| 18 | <p><i>The consent holder shall provide to the Waikato Regional Council a written monitoring report by 30 September each year for the previous year ending 30 June of each year that this consent is current.</i></p> <ul style="list-style-type: none"> • This report is submitted in compliance with the consent condition. |
| 19 - 20 | <p><i>The consent holder shall notify the Waikato Regional Council as soon as practicable and as a minimum requirement within 24 hours, of the consent holder becoming aware of the limits specified in conditions 8, 11, 14, 15, 16, and 17 of this resource consent being exceeded and/or of any accidental discharge, plant breakdown, or other circumstances which are likely to result in the limits of this resource consent being exceeded. The consent holder shall, within 7 days of the incident occurring, provide a written report to the Waikato Regional Council, identifying the exceedance, probable causes, steps undertaken to remedy the effects of the incident and measures that will undertake to ensure future compliance.</i></p> <p><i>The consent holder shall maintain a register of all incidents that result in an exceedance of the limits specified in conditions 9,12,15,16,17 and 18 of this resource consent.</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. |
| 21 | <p><i>The consent holder shall provide to the Waikato Regional Council, by the 5th anniversary of the granting of this consent, an Effects Assessment Report, that provides as a minimum:</i></p> <p>(i) <i>A review of all monitoring results collected since this consent was granted;</i></p> |

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| Conditions Comments | |
|---------------------|--|
| | <p>(ii) <i>A discussion of the acceptability of the discharge to local Tainui Hapu;</i></p> <p>(iii) <i>An assessment of the need to improve wastewater discharge quality and/or provide alternative disposal methods, based on the information provided in (i) and (ii) of this condition;</i></p> <p>(iv) <i>A review of current developments in wastewater treatment and disposal technology that could be appropriate for Raglan wastewater treatment and disposal;</i></p> <p>(v) <i>Recommendations for future action in the light of (i) to (iv) above.</i></p> <ul style="list-style-type: none"> The fifth anniversary was February 2010 and the report by AWT consultants was provided to Waikato Regional Council and other interested parties at this time. |

| RC 971391 – Outfall Pipeline Structure – Condition Comments | |
|---|---|
| 2 | <p><i>The consent holder shall maintain the pipeline and outfall in a structurally safe condition at all times.</i></p> <ul style="list-style-type: none"> This structure is a relatively new piece of infrastructure and as expected there have been nil reports of any issues which would compromise the structural integrity of this pipeline. A dive survey was undertaken in January 2024 and is attached as Appendix 3. |

| RC 119648 – Discharge to Air - Condition Comments | |
|---|---|
| 2 - 3 | <p><i>There shall be no odour as a result of the activities authorised by this resource consent that causes an objectionable or offensive effect beyond the boundary of the site... The consent holder shall maintain and keep a complaint register for all odour complaints in respect of the wastewater treatment facility received by the consent holder.</i></p> <ul style="list-style-type: none"> Councils CRM database records all complaints from the public. No complaints were received for the Raglan WWTP. Appendix 2 is attached as evidence of a complaints register. |
| 4 | <p><i>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 the resource consent.</i></p> <ul style="list-style-type: none"> An Operations & Management Plan is retained for this site. The Raglan Operations & Management Plan was subjected to review by Watercare and submitted to the Waikato Regional Council in December 2023. A new Operations & Management Plan will be completed following the plant upgrades. Contingency plans have been provided in the last version of the Raglan Operations & Management Plan which were submitted to the WRC in December 2023. A new revision will be forwarded on upon completion of the plant upgrades. |