

Site Compliance Report

Site No: REG601518
Site Owner: Waikato District Council
Site Name: Maramarua Wastewater Treatment Plant: Coalfields Rd, Maramarua
Date: 01 July 2018 to 30 June 2019

1 INTRODUCTION

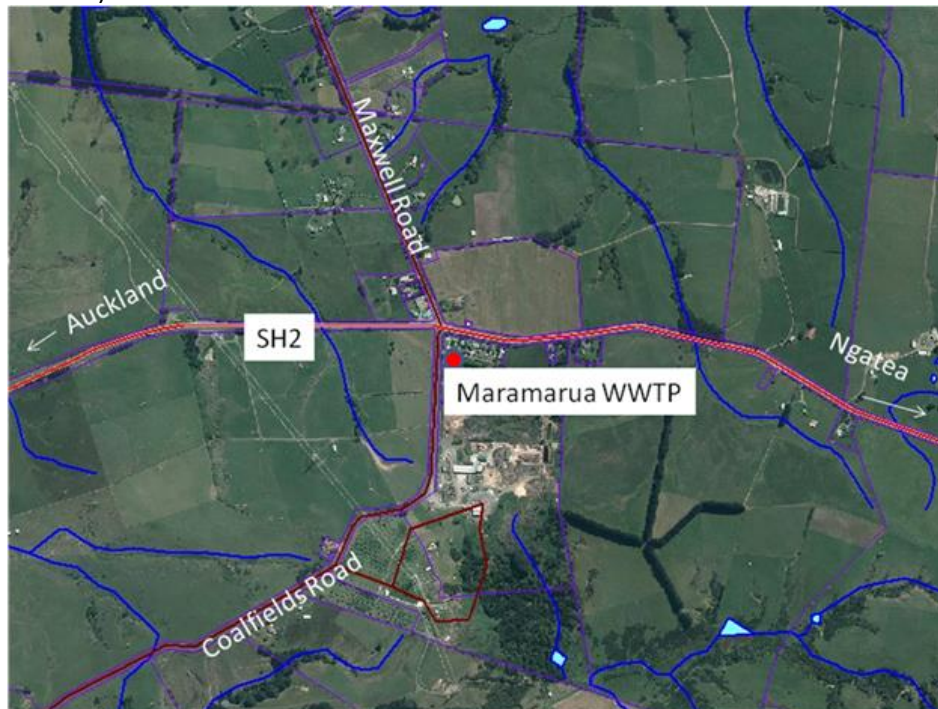
The following resource consent is held for the site:

Resource Consent	Status	Description	Commenced	Expiry
AUTH132607.01.01	Current	To discharge treated municipal wastewater to ground from the Maramarua Wastewater Treatment Plant, Maramarua	15/12/2014	15/12/2039

This report examines the level of compliance of Waikato District Council with the selected conditions of the resource consent.

2 BACKGROUND

The Maramarua WWTP treats the wastewater from 8 properties in the immediate vicinity of the WWTP. The Maramarua Wastewater Treatment Plant (WWTP) uses septic tanks as a primary treatment method before effluent is sent to a Recirculating sand contactor (RSC) and finally to a land soakage field (Wisconsin Mound).



Infiltration during high rainfall periods continues to be problematic. This is a very small system with 8 houses connected. The ground water table is consistently high during winter months.



The Waikato District Council states in their annual report (doc ref 9198900):

Flows from the plant have exceeded the maximum daily allowance on 11 days during the reporting period. A maximum daily flow of 9 m³ was recorded in November 2015 and March 2016.

Infiltration and ingress during high rainfall periods continues to be problematic. This is a very small system with 8 houses connected and also a small consent limit of 5 cubic meters per day. The ground water table is consistently high during winter months.

Proposed inflow and infiltration works for 2016/17:

- Remedial work is expected to start in Oct/Nov 2016. This work is expected to address the plant discharge volume exceedance.

2.1 PREVIOUS COMPLIANCE HISTORY

Compliance period	Site Compliance
1 July 2016 to 30 June 2017	High level of compliance
1 July 2015 to 30 June 2016	High level of compliance
1 July 2014 to 30 June 2015	Full compliance
1 July 2013 to 30 June 2014	High level of compliance
1 July 2012 to 30 June 2013	High level of compliance
1 July 2012 to 30 June 2013	High level of compliance
1 July 2011 to 30 June 2012	High level of compliance

2.2 ISSUES FROM PREVIOUS AUDIT

The issues that were highlighted for action in last year's annual audit (doc #10664735) are listed below but have not however been rectified as required.

Resource consent	Condition Number	Action Required
AUTH132607.01.01	5	Investigate and take action to reduce volumes to within compliant limits of 8m ³ /day as a 90%ile – Non-compliant
AUTH132607.01.01	14	Condition 14 - Please submit a copy of a valid calibration certificate for the meter used for effluent discharge compliance purposes – Non-compliant
AUTH132607.01.01	16	Condition 16: Please provide evidence of rainfall data – Non-complaint

3 COMPLIANCE ASSESSMENT

Unless otherwise specified in this document this assessment covers the period from 1 July 2018 to 30 June 2019.

Please note that a description of the classification system used to describe compliance status is given in Appendix 1 of this report.

AUTH132607.01.01 - Land - sewage

Activity Authorised: To discharge treated municipal wastewater to ground from the Maramarua Wastewater Treatment Plant, Maramarua	
Condition No.	Description
4	The average daily discharge volume of treated wastewater discharged to the Wisconsin Mound shall not exceed 5 cubic metres per day. This is to be calculated on a rolling 12 month period basis
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).
Status Reasoning	The plant has complied with both the average and 90th percentile daily discharge volume consent limits. The average flow was 4m ³ /d. A maximum daily flow of 10m ³ was recorded in September and December 2018.
Action Required	Full compliance
5	The 90th percentile daily discharge volume of treated wastewater discharged to the Wisconsin Mound shall not exceed 8 cubic metres per day. To determine compliance with the 90th percentile limit, no more than 10 percent of daily discharge volume totals shall exceed the specified limits. This is to be calculated on a rolling basis for the previous 12 month period.
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).
Status Reasoning	90th percentile daily flow was measured to be 10m ³ .
Action Required	Investigate and take action to reduce volumes to within compliant limits of 8m ³ /day as a 90%ile Low priority non-compliance

6(a)	<p>The consent holder shall ensure that the quality of the discharge to the Wisconsin Mound shall comply with the following limits:</p> <ol style="list-style-type: none"> 1. The 90th percentile daily discharge of Carbonaceous Biochemical Oxygen Demand (cBOD) discharged to the Wisconsin Mound shall not exceed 20 milligrams per litre (20mg/l cBOD). To determine compliance with the 90th percentile limit, no more than one sample in any ten consecutive monthly sampling events shall exceed the specified limits. This is to be calculated on a rolling basis for the previous 12 month period. 2. The 90th percentile daily discharge Suspended Solids discharged to the Wisconsin Mound shall not exceed 30 milligrams per litre in terms of Suspended Solids (30mg/l SS). To determine compliance with the 90th percentile limit, no more than one sample in any ten consecutive monthly sampling events shall exceed the specified limits. This is to be calculated on a rolling basis for the previous 12 month period.
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).
Status Reasoning	<p>cBOD5 90%ile = 10.1g/m3 compliant with 20g/m3 limit</p> <p>SSlDs 90%ile = 11.9g/m3 compliant with 30g/m3 limit</p>
Action Required	Full compliance
6(b)	<p>The consent holder shall determine the concentration of waste water contaminants in the treated wastewater discharged to land by collecting samples for analysis at a point prior to application to the Wisconsin Mound for the following determinants:</p> <ol style="list-style-type: none"> 1. Nitrate Nitrogen (NO₃-N) 2. Ammoniacal nitrogen (NH₄-N) 3. Escherichia coli (E.coli) 4. Suspended solids (SSlDs) 5. Carbonaceous Biological Oxygen Demand (cBOD) <p>Samples should collected on a monthly basis (12 samples per year) this sampling frequency can be reduced after 2 years worth of samples if the consent holder applies to Waikato Regional Council in writing.</p>
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).
Status Reasoning	<p>Nitrate</p> <ul style="list-style-type: none"> • Measured median = 33.5g/m3 • Measured 90%ile = 42.9g/m3 <p>Ammoniacal nitrogen</p> <ul style="list-style-type: none"> • Measured median = 6.6g/m3 • Measured 90%ile = 16.9g/m3 <p>E.coli</p> <ul style="list-style-type: none"> • Measured median = 1824.5cfu/100ml <p>SslDs and cBOD5 see condition 6(a) above</p>
Action Required	Full compliance
7	The discharge shall be uniformly distributed over the wastewater disposal area (Wisconsin Mound).
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).

Status Reasoning	The consent holder states in their annual report that: <i>The disposal mound is regularly inspected.</i>	
Action Required		Full compliance
8	The consent holder shall ensure that the wastewater treatment and disposal system is properly operated and maintained at all times.	
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).	
Status Reasoning	The consent holder states in their annual report that: <i>The site is regularly attended and inspected.</i>	
Action Required		Full compliance
9	As a result of the operation of the wastewater treatment plant the discharge shall not result in odour that is objectionable to the extent that it causes an adverse effect at or beyond the boundary of the subject property. Advice Note: <i>Chapter 6.4 of the Waikato Regional Plan provides guidance on the assessment of the effect of odour and dust emissions.</i>	
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).	
Status Reasoning	The consent holder states in their annual report that: <i>Council's CRM database records all complaints from the public. There were no odor complaints from the public during the consent year regarding the Maramarua WWTP.</i>	
Action Required		Full compliance
10	The consent holder shall retain and update as necessary the Operation and Management Plan for the site. The following matters shall be addressed, as a minimum: <ol style="list-style-type: none"> 1. An inspection programme designed to verify the correct functioning of all components of the wastewater treatment and disposal systems; and 2. A schedule or checklist of maintenance requirements for the septic tanks, pump chamber, wastewater treatment plant, and the disposal system. The maintenance requirements shall also specify that the system shall be maintained on a minimum six-monthly frequency; and 3. A copy of the names of the appropriate contact people in the event of system malfunction including contact telephone numbers; and, 4. Monitoring and reporting requirements, and 5. A contingency plan for action to be taken in the event of wastewater breakout from the treatment and/or disposal systems. The Management Plan, along with any notification of any changes made to it, shall be provided to the Waikato Regional Council within six months of exercising the consent or making changes to the plan. the Operations and Management Plan shall be reviewed on a three yearly basis after the first six months from the commencement date of this consent.	

Evidence	A copy of the 2012 Operations Manual is lodged with the Waikato Regional Council.	
	The O&M Plan was updated in May 2015 (doc ref 3587879).	
Status Reasoning		
Action Required		Full compliance
11	There shall be no overland flow or ponding of wastewater from the treatment system or outside of the disposal area at any time.	
Evidence	WDC states that: <i>There have been no overland discharges during the reporting period.</i>	
Status Reasoning		
Action Required		Full compliance
12	That the works programme contained in the Maramarua Wastewater Network Inflow and Infiltration Investigation (Waikato Regional Council EDRM #3065271) be incorporated into an updated Operations & Management Plan for the plant within 6 months of the commencement of this consent.	
Evidence	A copy of the O&M Plan has been lodged with Waikato Regional Council. The I&I investigation is contained in Appendix 6.	
Status Reasoning		
Action Required		Full compliance
13	The consent holder shall keep a written record of all maintenance that is undertaken on the system and these records shall be made available to the Waikato Regional Council within 10 working days of request.	
Evidence	Routine maintenance checks are carried out on the wastewater system and any problems noted. Site visits were undertaken at least fortnightly through the reporting period. Details of faults and any work carried out are recorded in WaterOutlook.	
Status Reasoning		
Action Required		Not assessed
14	The consent holder shall ensure that a flow meter is available to record the quantity of effluent discharged on a cumulative daily basis. The meter shall have a reliable calibration to flow, which shall be maintained to an accuracy of +/- 5%. The meter shall be read at the same time of the same day, once per week, that the site is occupied. Access to the meter shall be available to Waikato Regional Council staff at all reasonable times.	
Evidence	A flow meter is fitted. The flow is recorded daily via telemetry. The flow meter was verified with a calibration certificate on May 2014.	
Status Reasoning		

Action Required	Please submit a copy of a valid calibration certificate for the meter used for effluent discharge compliance purposes.	Minor technical non-compliance
15	<p>The consent holder shall provide to the Waikato Regional Council a written report by 30 September each year, addressing the following:</p> <p>i) A summary of the wastewater and freshwater monitoring results required by conditions of this resource consent for the year ending 30 June;</p> <p>ii) Critically analyse the monitoring data collected and comment on any emerging trends;</p> <p>iii) Comment on compliance with the conditions of this resource consent;</p> <p>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;</p> <p>v) Any other issue considered relevant to the consent holder.</p>	
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).	
Status Reasoning		
Action Required		Full compliance
16	The consent holder shall record the daily rainfall at this site and report the rainfall figures as part of their monthly and annual reports to Waikato Regional Council.	
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).	
Status Reasoning	<p>The consent holder states in their annual report that:</p> <p><i>Rain gauge installed on 17/04/15. Operating correctly from May 2015.</i></p> <p>However no rainfall data has been submitted as part of the monthly or annual report.</p>	
Action Required	Ensure that rainfall data is collected and submitted to WRC as required	Low priority non-compliance
17	The consent holder shall undertake annual monitoring of the surface water drains at the following points NZTM 1795418E 5875477N (Coalfields Road) and NZTM 1795452E and 5875491N (Kopuku Lane) and the on-site bore within the WWTP at NZTM 1795430E 5875491N at a suitable time when there is flow within the drains. The sample should be analysed for the same determinants as listed in condition 6 above.	
Evidence	Maramarua Wastewater Treatment System - Annual Report 2018 - 2019 (Doc #15248901).	
Status Reasoning	<p>The consent holder has stated in their annual report that:</p> <p><i>This sampling is scheduled and will be carried out by Shared Services.</i></p> <p>No evidence that the sampling has been undertaken has been provided.</p>	
Action Required	Please submit evidence of annual monitoring of the surface water	Minor technical non-

	drains.	compliance
18	The consent holder shall forward the results of the monitoring undertaken pursuant to conditions 4, 5, 6 and 19 to the Waikato Regional Council, via electronic means, within one month of receipt of the results by the consent holder.	
Evidence	Implementation of WaterOutlook reporting at Council has allowed this process to be automated, beginning 2016/17.	
Status Reasoning		
Action Required		Full compliance
19	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.	
Evidence		
Status Reasoning		
Action Required		Not assessed
20	The consent holder shall maintain and keep a complaints register for all aspects of all operations at the site. The register shall detail the date, time, duration and type of complaint, cause of the complaint, and action taken by the consent holder in response to the complaint. The consent holder shall forward to the Council a copy of all complaints received as soon as practicable. The register shall be made available to the Council upon request at any reasonable time and a copy shall be forwarded to the Waikato Regional Council by 30 September each year.	
Evidence	Council's CRM database records all complaints from the public. There were no complaints from the public during the consent year regarding the Maramarua WWTP.	
Status Reasoning		
Action Required		Full compliance
Authorisation Compliance: Partial compliance		

4 SUMMARY OF COMPLIANCE

Based on the conditions selected for monitoring, compliance has been assessed as:

Authorisation	Authorisation Description	Compliance Status
AUTH132607.01.01	To discharge treated municipal wastewater to ground from the Maramarua Wastewater Treatment Plant, Maramarua	Partial compliance

Overall Site Compliance: Partial Compliance

5 DISCUSSION AND CONCLUSIONS

Waikato District Council have attained a compliance status of Partial Compliance for this period.

This site has suffered from Inflow and Infiltration (I&I) issues due to the leaky state of the reticulation system. Waikato District Council undertook an investigation into the I&I (see doc ref 3967884) which found no illegal connections but some pipe abnormalities were discovered. Some repairs were undertaken however the problem of overloading the WWTP via I&I still seems to be causing some issues of non-compliance with meeting the 90%ile limit.

It is noted that the survey of the reticulation system was undertaken during dry weather and this made it difficult to locate all the potential problems with the pipe connections. It is recommended that a further CCTV inspection is undertaken during wet weather and any subsequent problems identified are repaired to further reduce inflow of stormwater into the system.

Rainfall data is still not being submitted to Waikato Regional Council however the consent holder states that it is now being collected at the site since May 2016.

Waikato Regional Council has still not yet received a calibration certificate for the site meter that was requested in last year's audit.

The consent holder states that sampling of the surface water drains is scheduled and carried out by contractors, however no results or assessment of results has been provided.

6 SUMMARY OF ACTIONS REQUIRED

The following actions are required to be undertaken:

Resource consent	Condition Number	Action Required
AUTH132607.01.01	5	Investigate and take action to reduce volumes to within compliant limits of 8m ³ /day as a 90%ile
AUTH132607.01.01	14	Please submit a copy of a valid calibration certificate for the meter used for effluent discharge compliance purposes.
AUTH132607.01.01	16	Ensure that rainfall data is collected and submitted to WRC as required
AUTH132607.01.01	17	Please submit evidence of annual monitoring of the surface water drains.

7 RECOMMENDATIONS FOR WAIKATO REGIONAL COUNCIL

The consent holder Waikato District Council has achieved a compliance status of **Partial Compliance** during this audit. Due to the failure to respond to the actions highlighted in the previous audit report for the 2015/2016 period (doc #10664735) I recommend a **Letter of Direction** is issued requiring written response or the required actions to be undertaken within a set timeframe.



Fiona Forrest
Resource Officer - Infrastructure
Resource Use

Date: 12 February 2020

7.1 Decision

I have reviewed this audit report and agree with the recommendations.

A rectangular box containing a handwritten signature in black ink, which appears to be 'Hugh Keane'.

Hugh Keane
**Team Leader – Infrastructure
Resource Use**

Date: 12 February 2020

APPENDIX 1

Compliance Status for Individual Conditions

Compliance Status	Description
Not assessed	Monitoring of this condition was not undertaken during this monitoring event
High priority non-compliance	The non-compliance has the potential for, or has resulted in, significant adverse effects on the environment.
Medium priority non-compliance	There is non-compliance with limits or other direct controls on adverse effects; and The non-compliance has the potential for, or has resulted in, a greater than minor increase in the level of effects authorised.
Low priority non-compliance	There is non-compliance with limits or other direct controls on adverse effects; and The non-compliance has the potential for, or has resulted in, a less than minor increase in the level of effects authorised; and/or There has been a significant technical non-compliance such as a failure to collect or supply self monitoring data.
Minor technical non-compliance	There is non-compliance with a condition, or part of a condition, that does not directly control adverse effects; and The non-compliance was not significant in the management of effects. For example a short delay in supplying data or meeting a deadline for a report
Full Compliance	The condition has been complied with

Compliance status for individual consents and the entire site

Compliance Status	Description
Not assessed	Monitoring has not been undertaken at this site during the current financial year
Significant non-compliance	There has been a high priority non-compliance; and/or There have been several medium priority non-compliances.
Partial compliance	There has been a medium priority non-compliance; and/or There have been several low priority non-compliances.
High level of compliance	There has been a low priority non-compliance; and/or There have been several minor technical non-compliances.
Full compliance	All conditions that include limits or other direct controls on adverse effects have been complied with. A small number of minor technical non-compliances may have occurred.