24th April 2017

Thames-Coromandel District Council
515 MacKay Street
Private Bag
THAMES

Dear Mr Teulon,

RE: Hahei Wastewater Treatment Plant
Annual Report - April 2016 to March 2017
Resource Consent: 117888

This report covers the operation and compliance of the Hahei Wastewater Treatment Plant for the period 1 April 2016 to 31 March 2017.

Please find attached the supporting monitoring data for the daily effluent disposed and the analytical data for the year.

Comments on Trends

The trend graphs relating to the comments below are located within the attached spreadsheet.

Effluent

Ammonia levels have been overall higher in the last year in the effluent and influent, which were particularly elevated over summer. The influent and effluent levels are similar which suggests there is limited ammonia removal in the treatment process.

Phosphorous and soluble reactive phosphorous concentrations increase periodically over the summer peak period.

.

Stream

Ammonia concentrations downstream tend to increase over the summer peak period. This is not believed to be due to the plant as there are some ammonia spikes during other times of the year which do not increase downstream ammonia concentrations. From additional summer sampling there is increased pollution downstream of the plant which is believed to be due to septic tank pollution caused by the New Years' population influx.

Veolia Water Services (ANZ) Pty Ltd
A subsidiary of Veolia Water Australia Pty Ltd
ACN 069 471 334
61-63 O'Shannessey Street
PAPAKURA 2110 NEW ZEALAND
Tel: +64 (0)9 295 0515 I Fax: +64 (0)9 296 2632

PO Box 72-243
PAPAKURA 2244 NEW ZEALAND
www.veoliawater.co.nz

Thames-Coromandel Operations
100 Burke St Thames
THAMES-COROMANDEL 3500 NEW ZEALAND
Tel: +64 (0)7 868 0000

When comparing upstream and downstream water quality, it appears that the discharge is having minimal effect on the quality of the stream. Bacterial content of the stream is often similar or actually higher in the upstream sample. Many of the chemical parameters have only slightly higher concentrations downstream compared to upstream, and in some cases the upstream concentration is slightly higher. The effluent discharge seems to be having a "dilution effect" on downstream stream quality. However, due to the tidal influences downstream, it is not possible in most cases to directly implicate the effluent discharge in changing downstream water quality.
From additional peak period sampling there appears to be some pollution further downstream of the plant believed to be from septic tanks (Fluorescent whitening agent testing was done which suggested pollution) which increases over New Years as the population increases. This also complicates determining WWTP effects on downstream water quality as a drain feeds in before the downstream sampling site and additional sampling shows a high pollution input from this source.

Comments on Compliance

The below comments are in regards to the limits outlined in condition 8 of the consent:

a) Suspended Solids: Has **complied** with both the running average and 90th percentile criteria.
b) Carbonaceous Biochemical Oxygen Demand: Has **complied** with both the running average and 90th percentile criteria.
c) Escherichia coli: Has **complied** with both the running average and 90th percentile criteria.
d) Total Ammoniacal Nitrogen: Has **not complied** with the 90th percentile criteria but has **complied** with the running average limit.
e) Total Kjeldahl Nitrogen: Has **complied** with both the running average and 90th percentile criteria.
f) Total Phosphorus: Has **complied** with both the running average and 90th percentile criteria.

Overall the plant was compliant with the discharge quality limits except for the 90th percentile for ammonia

Diurnal sampling was undertaken, as specified by condition 16h, and results are in the attached spreadsheet. A sample was collected for several of the hours when the plant was running, but since it does not run continuously, not all 24 samples were possible. Bacterial parameters remained low throughout the 24 hours.

Veolia Water Services (ANZ) Pty Ltd
A subsidiary of Veolia Water Australia Pty Ltd
ACN 069 471 334
61-63 O'Shannessey Street
PAPAKURA 2110 NEW ZEALAND
Tel: +64 (0)9 295 0515 I Fax: +64 (0)9 296 2632

PO Box 72-243
PAPAKURA 2244 NEW ZEALAND
www.veoliawater.co.nz

Thames-Coromandel Operations
100 Burke St Thames
THAMES-COROMANDEL 3500 NEW ZEALAND
Tel: +64 (0)7 868 0000

Comments on Works Undertaken/Planned

- The Membrane Filtration Unit (MFU) filter cartridges were replaced some months ago as part of TCDC's capital renewals program.
- Works to address inflow solids screening, power inadequacies, and additional aeration are scheduled as part of TCDC's 2017/2018 Capital Works program.
- Improvements are to be made to the on-site SCADA and monitoring system as part of the 2017/2018 Capex program in order to better monitor ongoing plant performance. However effluent discharge volumes and aerator DO is now recording properly on SCADA·
- Work in relation to the renewal of the Hahei Wastewater Consent is ongoing with the Regional Council.

If you have any enquiries, please do not hesitate to contact me.

Yours Sincerely,

Claire Eyberg
Technical Officer

Veolia Water Services (ANZ) Pty Ltd
A subsidiary of Veolia Water Australia Pty Ltd
ACN 069 471 334
61-63 O'Shannessey Street
PAPAKURA 2110 NEW ZEALAND
Tel: +64 (0)9 295 0515 I Fax: +64 (0)9 296 2632

PO Box 72-243
PAPAKURA 2244 NEW ZEALAND
www.veoliawater.co.nz

Thames-Coromandel Operations
100 Burke St Thames
THAMES-COROMANDEL 3500 NEW ZEALAND
Tel: +64 (0)7 868 0000