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Fiona Morton
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Horizons Regional Council
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Palmerston North 4442

5-P0531.01

Dear Fiona

Further Information Request Response - Application No. APP - 1993002253.02

In regards to the information requested on the above referenced application, please find below Tararua District Council's response.

A – Please find attached an application for a Discharge Permit in relation to the ponds. The reason for this application is lack of available information/testing results in relation to the clay lining that occurred at the plant.

B – An update regarding predicted effluent quality is provided below. Attached are summary tables of results received to date.

A testing regime has commenced at Pahiatua, a summary of results is shown in the additional column in the Table below (additional column added to Table 3 of original information).

Table 1: Filtered and edited effluent concentration data* (5/10/10-18/02/14)

Parameter	Mean Concentration (mg/L)		Value below which data removed in edited data	Post tertiary results to date (mg/l)
	Filtered Data	Edited Data		
Ammoniacal Nitrogen	4	4	1	16
DRP	0.7	2	0.3	Not measured
E Coli	284	886	50	93
Nitrate	2	2	-	0.3
Nitrite	0.04	0.04	-	0.1
Total Coliforms	19,197	29,417	200	Not measured
Total Nitrogen	7	7	-	18
Total Oxidised Nitrogen	2	2	-	0.4
Total Phosphate	0.9	3	0.5	1.3
Total Suspended Solids	8	36	10	16
Turbidity	8	8	-	Not measured
Volatile Matter	6	22	7.5	Not measured

* It has subsequently been identified that the effluent data used in the first two columns of Table 3 was largely taken from an incorrect source, making the data inappropriate for use in making direct comparisons with post upgrade data.

16 effluent sample results have been received. There are between 13 and 16 results for each of the requested parameters. There are also 14 sets of sample results for the effluent passing between Pond 2 and Pond 3. The Sample Point 7 results, post upgrade, are summarised in Table 3 above.

Because the pre-upgrade data has subsequently been identified as being of incorrect origin, and there is insufficient post upgrade data to be certain of effluent quality, no summary is made here of the improvements being rendered by the tertiary upgrades.

Anticipated effluent quality improvements resulting from the upgrades are summarised in Table 2 below (an update of original table).

Table 2 Summary of anticipated effluent quality improvement

Process Upgrade	Affected Effluent Parameters	Anticipated Improvement*	Confidence Rating (1-10, low-high)	Reason for Confidence Rating
Inlet screen	Gross Solids	Protection of downstream mechanical equipment	10	No Numeric
Lamella Clarifier	TSS,	TSS – 50%	4	No pilot results
	TN,	TN – 60% of 3mg/l	4	Filtered data indicates 3mg/l Organic N in SS. But TSS not reliable
	DRP,	DRP to approx. 0.7mg/l**	7	Essentially tunable with coagulant
		Small reduction in faecal indicator bacteria by physical removal.	7	Experience with other solids removal processes.
Drum Filter	TSS, TN, TP	30% of Clarifier carry over. Small TSS particles will go straight through filter.	4	Vague Kaeo pilot trials. No trials on low TSS effluent & therefore no indication of %age less than 20 micron.
UV Disinfection	Bacteria, Viruses, Protozoa	2 - 3 Log_{10} Inactivation	6	Based on a good tertiary effluent but not specified dose.

* Based on Table 1 numbers above

** Depending upon chemical dose rate and clarifier up flow rate.

Further testing is to continue at the Pahiatua site for a minimum of two months, in order to gather data that can be applied to the other TDC sites (such as Eketahuna).

Delays in delivery of equipment initially pushed back when testing could commence, and samples were not able to be collected for the summer period as originally intended. In addition, adverse weather events impacted all the WWTPs also delaying the collection of meaningful data while the new systems were being implemented at Pahiatua and other sites.

Staff onsite are keeping a site diary which will assist with the proposed management plan that is to be developed. This will provide valuable insight into the interpretation of data.

C&D

Once the effluent sampling is completed, the effluent quality data will be used to undertake a quantitative assessment of the expected improvements in the effects of the discharge on in-stream concentrations of key contaminants. It was considered that given the number of effluent samples collected today, relatively early in the commissioning phase, the confidence level was still too low.

The quantitative assessment will be undertaken by Aquanet, and the methodology will be discussed with Horizons experts prior to the work proceeding.

In respect of the likely monitoring, Aquanet have been working with Horizons expects and there is substantial agreement around this. The final proposed methodology is currently with Horizons experts and will be forwarded as soon as the approach is agreed.

If you have any further questions or with to discuss please do not hesitate to contact me.

Regards

Tabitha Manderson
Senior Resource Management Planner