



22 December 2023

Fiona Morton
Horizons Regional Council
Private Bag 11025
Palmerston North

Ratana WWTP Resource Consent - Additional Information Response

5-P-1472.00

Dear Fiona,

This letter is in response to the s92 Additional Information request made in relation to APP-1997003515.01, Ratana Wastewater Treatment Plant.

Responses to the queries are set out in the table on page two of this letter. Referenced material is either attached as an appendix to the updated consent application or attached to this letter.

Please let me know if any further clarification is required.

Regards

Tabitha Manderson



Rātana WWTP s92 Additional Information Request Table

	Questions	Notes
	Erosion and Sediment Control Matters	
1	The application notes that earthworks are required for the purpose of a storage pond construction and ancillary earthworks. There appears to be no details of the specific earthwork activities, earthwork areas and volumes. Please confirm this detail.	Please see Appendix C of the revised consent application, this details the alternative locations considered. The location of the proposed pond has been incorporated into the updated site plan in the consent application as well.
2	The application states that an ESCP will be provided prior to works commencing. To enable an assessment of the ESC approach and the effects of earthworks as part of this consent some details will be required at the application stage. Please provide an ESCP that outlines the general approach to earthworks and confirms an ESCP approach. This can be in the form of a draft ESCP that confirms an approach with associated ESC measures however retains flexibility such that the contractor can amend prior to construction if required. The ESCP needs to be consistent with relevant ESC guidelines,	Please see Appendix L of the revised consent application for a draft ESCP .
	Air	
3	Please provide more information on the nature and extent of odour issues/events associated with the WWTP, in particular, the details of any odour complaints, how they were resolved and will be avoided in future	No odour complaints have been received. An odour management plan is proposed as condition of consent.



	Groundwater	
4	<p>Please provide further information on bacterial reductions with distance from the site. This information should use a quantitative estimate based on likely reductions within the saturated zone only given that groundwater levels are very shallow at the site.</p>	<p>A conservative die-off calculation has been undertaken for E. coli discharge within treated effluent at the proposed Ratana Land Treatment Area. Calculations indicate that the wastewater discharge will meet the NZ drinking water standard for E. coli at a distance of 110m from the discharge point (likely property boundary) due to natural bacterial die-off over that distance.</p> <p>See Appendix M of the revised consent application.</p>
	Ecology	
5	<p>During the site visit, the extent of wetlands appeared to be more extensive than what was indicated in the ecological assessment of the application. Based on the coverage of the wetland plant species present and the indicators of wetland hydrology, Ms Cook's preliminary assessment within the wet areas gave the impression that further natural wetland might be present. Vegetation plots or hydrology tests as per the NPS-FM protocols for delineating natural wetlands were not carried out by Ms Cook during the site visit. Please consider the image (attached at the end of this letter) of the potential wetland areas noted last week against the wetland map in the ecological assessment of the application. Please advise if these or any other additional wet areas checked under the NPS-FM wetland protocol? If the additional areas as identified on the image below were not assessed or tested against the NPS-FM protocols, please complete and provide these assessments.</p>	<p>Delineation work is completed.</p> <p>EiA work has been updated based on the proposed alteration to mitigation.</p> <p>Irrigation zone objectives have been updated.</p> <p>Please see Appendix E of the revised consent application.</p>



6	Please provide an assessment of the requirements of the National Environmental Standards – Freshwater (2020) against the proposed discharge of wastewater to the identified Wetlands and the other areas noted by Ms Cook above.	Completed in the EIA, Please see Appendix E of the revised consent application.
7	Please provide an assessment of the requirements of the National Environmental Standards – Freshwater (2020) against the proposed discharge wastewater to (standing) water.	Completed in the EIA Please see Appendix E of the revised consent application.
Land		
8	Please provide a plan showing the land area comprising poorly drained soils versus free-draining soils at this site. Please include the sizes (ha) of these areas on the plan.	Please see Appendix F of the revised consent application.
9	Please provide the soil hydraulic properties for both the poorly-drained and free-draining soils (including infiltration rate, unsaturated hydraulic conductivity and water holding capacity).	Discussions were held between the RDC and HRC technical advisors regarding this question. Please see Appendix F of the revised consent application.
10	Please provide the soil chemical properties (soil testing) of the poorly drained and freely drained soils, in particular retention properties such as cation and anion exchange capacities. The soil testing locations and reps should consist of the following: a. Chemical – three (3) composite samples collected across the low-lying areas, and three (3) composite samples collected across the irrigated dunes. b. Physical – three (3) locations for each soil type, with 3-4 reps per location.	Discussions were held between the RDC and HRC technical advisors regarding this question. Please see Appendix F of the revised consent application.
11	Please explain how the hydraulic loading rates have been estimated using the soil water balance approach, including proportion of land that is poorly draining and free-draining, confirmation that this has been calculated at a daily time-step, volume (or depth in mm) of surplus water (i.e., drainage) in non-deficit scenarios.	Discussions were held between the RDC and HRC technical advisors regarding this question.



		<p>Updated irrigation modelling done, based on the consequential changes to the management zones</p> <p>Please see Appendix J of the revised consent application</p>
12	<p>During the site visit we discussed the possibility of standing water forming in the low-lying areas, and potentially that irrigation would continue regardless of standing water/ponding. Please elaborate further on these comments and, should this be the intended approach, provide greater specificity regarding when this would occur and what the 'triggers' may be.</p>	<p>This was noted as a general comment, in relation to the western dune plain area this could occur when keeping water levels to a prescribed level.</p> <p>The potential effect on wetlands is discussed further in the revised EIA</p> <p>Please see Appendix J of the revised consent application</p>
13	<p>Please provide evidence to support the assumptions made regarding Nitrogen leaching and Phosphorus run-off (Overseer files). Please ensure that the Overseer modelling is based on the soil types present at Rātana and consider the specific wastewater characteristics (current) and crop/pasture types (proposed), as well as the hydraulic loading for the site (current and future).</p>	<p>The WSP team did not use overseer modelling in the original AEE, instead they used a first principles approach. We maintain that Overseer Modelling it is not the appropriate tool for nitrogen leaching given it is not possible to model the scenario being proposed by RDC in this situation.</p> <p>Please see Appendix J of the revised consent application</p>
14	<p>Please provide greater specificity regarding the irrigation hardware to be used at the site and if different hardware is proposed depending on where the wastewater is being discharged.</p>	<p><i>A draft specimen design is attached.</i></p> <p>Please see Appendix B of the revised consent application</p>



	Existing site	
15	Please provide an assessment of existing compliance of the discharge to the Stream currently occurring from the WWTP.	Please find attached a table providing a summary from recent compliance reports
16	Please detail if any infrastructure changes will occur at the WWTP to improve the water quality that will continue to discharge to water until the land-based discharge is operational.	Due to funding constraints, no treatment upgrades are proposed at this stage. However, a sludge survey has been undertaken and RDC have included a budget line to enable partial desludging as part of asset management of the existing WWTP..
17	Please detail if any infrastructure changes will occur at the WWTP to improve the water quality that will be discharged to land.	No upgrades are proposed at this stage. Given the limited nutrient loading rates it was determined this was not the best use of the limited funding available.
	General matters	
18	Access to the 3-D imagery was very helpful. Is it possible for the site boundaries and different management zones to be imposed on this image and the 3-D imagery re-provided?	<i>Maps have been updated, though a full 3-D imagery is not feasible at this stage.</i>
	Consultation	
19	We discussed on site, and I reiterate here, that there is an absence of direct comment or s95 written approvals from the immediate neighbours to the site. Please elaborate on the consultation that has occurred with these neighbours.	



	<p>Specifically, I am referring to the following parties:</p> <ul style="list-style-type: none">a. Damian and Jessica Sollitt,b. Rob and Sarah Craig,c. Otairi Station Ltd, andd. Owners of the PT RAKAUTAUA 9 BLOCK (leasee is Bruce Craig)	<p>See attached for an affected party approval from Craigs.</p> <p>The Sollitts have actively been involved in the progress of this project and shown this through the recent agreement in principal to sell RDC a further 4ha of land to reflect the offset required by the ecological assessments.</p> <p>We will obtain the formal Affected Party approvals sought and email those.</p>
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