



25 March 2024

Horizons Regional Council
Via email: Fiona.morton@horizons.govt.nz
RE: Ratana WWTP Consent Application - s92 Request

**Ref: Ratana WWTP Consent Application (APP-2022203996.00)
Request for further information – Response**

Dear Fiona,

This letter is in response to the s92 Request that was sent by you via email on 30 January 2024 in regard to the Ratana WWTP Consent Application. This document provides answers to the questions raised in the s92 request.

Requested Information

Please find the information requested in the s92 letter in relation to the proposal below.

1. *Please briefly clarify how calculated the following columns in Appendix F have been calculated; Actual Irrigation Applied (mm/mth), Theoretical Accessible Soil Moisture (mm), and, Actual Accessible Soil Moisture (mm)*

Please see the attached email from Seth, dated 23rd Feb (Attachment 1).

2. *In relation to the response to question 9 of the s92 - please confirm that these are the discussions held between Seth Laurenson and the WSP technical advisors?*

Yes, these are the discussions held between Seth Laurenson and the WSP technical advisors.

3. *For the Dune Management Zone, a higher rate of irrigation and a controlled delivery is proposed, in order to avoid slumping of the dunes. Is there more detail that could be provided here?*

The irrigation system will be able to be controlled to apply variable volumes of water over variable time intervals. I.e. an irrigation zone could operate for as little as 1 minute and turn on and off every hour; or any other combination.

4. *What would the rate of irrigation be and what is meant by 'controlled delivery'?*

Automatic valves linked to a controller linked to a weather station and soil moisture sensors allow the right amount of irrigation to occur at the right times to ensure that optimum soil moisture levels are maintained.

The rate of irrigation will be varied to suit soil conditions. A key component of avoiding potential erosion is not exceeding the infiltration rate of the soil.

5. *This is relevant because it is also proposed to monitor the effects of irrigation on the physical structure of the dunes. A better understanding of the proposed irrigation regime would help enable assessment as to whether monitoring is necessary and if so, how.*

The irrigation system is not finalized. The specimen design allows for sub surface dripline, surface dripline and fixed sprinkler irrigation. These broadly cover the range of irrigation methods that are feasible for this site.

Sub surface dripline minimises run-off, wind drift, does not get affected by surrounding trees and does not get in the way of machinery. But requires a higher level of proactive maintenance. It has been ear marked for the boundary buffer.

Surface dripline minimises run-off, wind drift, and does not get affected by surrounding trees. But it does get in the way of machinery and does require proactive maintenance. It has been earmarked for “unmanaged” areas.

Fixed sprinklers minimize ongoing maintenance (less emitters), allow for better opportunity for evaporation, do not in the way of machinery. But they do require more pumping energy. They have been earmarked for the areas that will be actively managed.

6. *For the Western Dune Plain Mitigation Zone, it is proposed to irrigate in a way that maintains the wetlands at a prescribed level, which increases the permanently wet area of the wetlands. How has that extent been (or will be) determined?*

The extent has not been determined, and it is considered it cannot be determined at this stage. Much in the same way with natural wetland it would be expected there would be some seasonal variation.

Monitoring of the wetlands extent across a year would provide baseline data to ensure the wetland extent is maintained to the correct levels. If measurements are carried out once per season to account for seasonal variation this would allow an average extent to be obtained over time.

7. *What is the area (extent/amount) of planting proposed for the permanent wetlands to be maintained in the Western Dune Plain Mitigation Zone?*

Within the indicative area shown on plant below, planting will generally be undertaken at a 1.5m spacing, species dependent. A planting plan will be prepared in collaboration with relevant stakeholders and will be submitted to council for certification.

8. *The application states that irrigation in the Southern Ecological Enhancement Zone will be 'likely deficit only'. To clarify, does this mean that non-deficit is a possibility? If so, under what circumstances would that be?*

This statement references that during contingency periods it is possible that the entire site may need to receive some form of irrigation. It is not the intention that this would occur on a regular basis, non-deficit irrigation to this area would be a 'last resort'

Two aspects of the irrigation design will minimise the risk of over irrigating.

1. The buffer storage enables irrigation not to occur during wet periods. Mostly this is to cope with winter periods but equally it will prevent irrigation occurring during rainfall and post rainfall events at any other time of the year.
2. Being able target specific areas to not irrigate whilst still irrigating other areas.

9. *Will the offset wetland adjacent to W14 require the input of the irrigated wastewater to be successfully established and maintained?*

No, irrigated wastewater will not be discharged to this site. It is expected to infill naturally. This area will be planted, and a wetland design plan will be submitted to council for certification, irrigation could be used during the plant establishment phase if required. The plan for this area would include suitable pest plant management, monitoring requirements/regimes and planting plan.

10. *Page 3 of Appendix E, the EIA, says that the offset wetland will not receive direct irrigation. Is it expected to receive the wastewater as runoff from the surrounding irrigated dunes? Or otherwise, where will the water come from for it?*

No, it is not expected to receive run off from the surrounding area. The intention is to replicate natural conditions such that it would be rainfall and groundwater fed.

This wetland will be monitored over time and an adaptive management plan will be in place to ensure the open water component is maintained, will allow for normal seasonal variation and planting will occur which will aid in extent monitoring.

As above, controlling irrigation so as to not exceed infiltration capacity of surrounding areas will minimise risk of runoff occurring.

11. *One of the mitigation recommendations for the Central Duneland is to maintain appropriate vegetation cover to ensure the integrity of the dunes (Table 11 of Appendix E, the EIA). Can this be elaborated on? It is unclear if this means planting or weed control or that it means the irrigation will help to maintain vegetation cover.*

For the central duneland weed control is proposed. The irrigation will also help maintain vegetation cover; this is not specified at this time (as noted in the application currently much of this area has pine plantation established on it). The focus is on maintaining the shape of the dunes.

Once the pines have been removed as assessment will be undertaken to ensure dune stability is maintained. Planting will occur where required/appropriate to ensure the form of the dune is maintained.

12. *One of the mitigation recommendations for the Southern Duneland is to maintain appropriate vegetation cover with a focus on developing native dominant species over time, to ensure the integrity of the dunes (Table 12 of Appendix 12 – EIA). Section 5.1.2 says that enrichment planting is proposed. Please elaborate on this aspect? Will there be planting and weed control across the Southern Duneland or does this refer to the 10m-wide native buffer that is proposed for the wetland 14 edge?*

Enrichment planting and weed control is intended to occur across the Southern Duneland Area.

A planting plan for the Southern Duneland area will be prepared, this will include appropriate weed control measures. This will be prepared in collaboration with relevant stakeholders and will be submitted to council for certification as a condition of consent. Due to the desire to allow stakeholder involvement and focus on utilizing natural regeneration and naturalized plants from the area as much as possible it is submitted it would be preferable to not specify dates at this stage as the applicant would like to take an inclusive approach going forward, RDC submit that this plan should be prepared at least 12 months after the start of irrigation at the site.

I hope the above detail addresses the questions raised in your Section 92 request. If you have any further questions regarding the proposal, please do not hesitate to contact me.

Attached are the updated affected party approval forms from the Sollits and Duncans RDC are Casey Paki (as a representative on behalf of the Owners of Rākautaua No9 Block), RDC have asked for additional feedback/a formal response to be provided by mid to late April. Further updates regarding affected party approval forms or feedback will be forwarded as it come to hand.

Regards,



Tabitha Manderson



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