

Supplementary Report to the Northland Regional Council Notified Staff Report: Written response to the Independent Hearing Panel in the matter of Far North District Council's application for a resource consent for discharges from the East Coast Bays Wastewater Treatment Plant

Ben Tait, Northland Regional Council
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Recommended amendments

I have made several changes to the recommended resource consent that I tabled at the third day of the Hearing (26 June 2019). The changes are shown in the attached document titled "Appendix 3: Recommended Resource Consent (Amended 2 July 2019).

The recommended changes tabled on 26 June 2019 to original text (in Appendix 3 of the Northland Regional Council Staff Report) that I have not changed are underlined with no yellow highlighting. New recommended changes are underlined and highlighted yellow. Recommended reversions to the original text are not underlined and are highlighted yellow.

I address the main changes sequentially below. Minor changes (e.g., grammatical errors, renumbering, cross-referencing conditions, etc) are not addressed.

Condition 1 (Maximum daily dry weather discharge)

I consider that Condition 1 in the 26 June 2019 version of the recommended consent should specify that the volume of treated wastewater discharged from the wastewater treatment system to water should not exceed 790 cubic metres per day, based on a 30-day rolling average dry weather flow. My recommendation is based on the expert evidence of Dr Becky Macdonald on behalf of Far North District Council (the applicant).

Condition 2 (Requirement to minimise stormwater inflow and infiltration into the East Coast Bays Wastewater Reticulation Network)

I consider that Condition 2 in the 26 June 2019 version of the recommended consent should be deleted because it lacks certainty and will be difficult to monitor and enforce. I also consider that recommended Condition 1 will require Far North District Council to ensure that the capacity of the East Coast Bays Wastewater Treatment System is sufficient to cater to any increased inflows.

This means that Condition 3 in the 26 June 2019 version of the recommended consent is renumbered as Condition 2.

Condition 5 (Requirement for a quantitative microbiological risk assessment)

Condition 6 in the 25 June 2019 recommended stated: "...If the outcome of the quantitative microbiological risk assessment indicated that the discharge is likely to have a public health risk...then the written report must also recommend a level of pathogen reduction required to **avoid** the risk" [*emphasis added*]. I consider that the condition should be amended as follows: "If the outcome of the quantitative

microbiological risk assessment indicated that the discharge is likely to have an unacceptable public health risk... then the written report must also recommend a level of pathogen reduction required to reduce risk to an acceptable level.”

This is because it is not realistic, even with disinfection, to eliminate risk. The acceptable risk level will be recommended by the independent person(s) commissioned to do the quantitative microbial risk assessment.

Note that the amended Condition 6 is renumbered as Condition 5 because of the deletion of Condition 2 in the 25 June 2019 version of the recommended consent.

Conditions 7, 8 and 9 (Requirement to establish of a working group for the involvement of Ngāti Kahu in options analysis and decision-making)

At the Hearing, on 26 June 2019, I recommended that the resource consent, if granted, should require Far North District Council to take meaningful and reasonable steps to provide for the involvement of Ngāti Kahu in:¹

- (a) the analysis of options for upgrading the East Coast Bays Wastewater Treatment System;
- (b) the analysis of options for disposing treated wastewater to land; and
- (c) the decision-making regarding alternative disposal sites for treated wastewater.

The requirements are set out in conditions 9, 13A and 13B of the 26 June 2019 version of the recommended consent.

However, the 26 June 2019 version of the recommended consent did not set out how the applicant should take meaningful and reasonable steps to provide for the involvement of Ngāti Kahu in the analyses and decision-making. That is, the 26 June version of the recommended consent is not certain and therefore problematic from a compliance and dispute resolution point of view.

I consider that the consent should specify how the meaningful and reasonable steps should be taken. I recommend a new condition (Condition 7) that would require Far North District Council to establish a working party (comprised on Ngāti Kahu representatives, senior staff of the district council, and an independent person qualified and specialising in wastewater engineering). Ngāti Kahu would be invited to appoint its representatives and the district council appoint staff and the independent wastewater engineer. The purpose of the group (as set out in the new Condition 8) is to provide for the involvement of Ngāti Kahu in the option analysis and decision-making regarding disposing of treated wastewater to land and, if required, the options analysis for upgrading the wastewater treatment system.

I have also recommended a new condition (Condition 9) that would require Far North District Council to establish a Terms of Reference with the representatives of Ngāti Kahu that sets out:

- (a) The frequency and format of the Working Group meetings, and methods for decision-making; and
- (b) A dispute resolution process by which differences may be resolved.

¹ See Conditions 9, 13A, and 13B in “Appendix 3: Recommended Resource Consent (Amended 25 June 2019).”

Condition 10 (Requirement for options analysis for land disposal and a decision on whether to obtain land)

I consider that a new condition (Condition 10) should be included in the recommended resource consent that would require the Far North District Council to, within one year of the date of the commencement of the consent (if granted):

- (a) Provide a report to Northland Regional Council on the findings of an analysis of options for disposing treated wastewater to land;
- (b) Make a decision on whether to obtain land for disposing wastewater onto or into, and the reasons for the decision.

Conditions 13A and 13B in the 26 June 2019 version of the recommended resource consent would only require the Far North District Council to do an analysis of land disposal options and decide whether to obtain land within one year of the commencement of the resource consent. That is, the conditions would not require the district council to provide the Northland Regional Council with the findings of the options analysis, the decision and the reasons for the decision.

The information is needed for the public record and to provide Northland Regional Council with the necessary assurance that the options analysis and decision were robust. On that matter, I consider that a new condition (Condition 24(b)) should be inserted in the resource consent that would allow Northland Regional Council to serve notice on the Far North District Council of its intention to review the conditions of the resource consent within three months of receiving the report required by Condition 10 to provide for additional work on land disposal options.

Condition 11 (Requirement to upgrade the Wastewater Treatment System to reduce ammoniacal nitrogen concentrations)

I consider that a new condition (Condition 11) should be inserted in the resource consent. Condition 11 would require Far North District Council to upgrade the East Coast Bays Wastewater Treatment Plant if the district council does not provide the land disposal options analysis report and decide whether to obtain land within one year of the commencement of the resource consent.

Conditions 12-16 set out how and the timeframes by which the upgrade will be done.

Condition 12 (Requirement for an options analysis of upgrade options)

Condition 8 of the 26 June 2019 version of the recommended resource consent would require Far North District Council to, within six months of the commencement date of the consent, complete an analysis of options to reduce the total nitrogen concentrations in the treated wastewater to meet the following discharge quality standards:

- The annual median total nitrogen concentration must not exceed 15 grams per cubic metre; and
- The concentration of total nitrogen must not exceed 20 grams per cubic metre on more than four out of 26 fortnightly samples per year.

I stated at the Hearing on 26 June 2019 that the standards are based on the “potential effluent quality requirements” for total nitrogen from an upgraded East Coast Bays Wastewater Treatment Plan that are set out in Table 2 of the AECOM

New Zealand Ltd dated 28 May 2018.² I stated at the time that the standards for total nitrogen would implicitly address (or, provide for) ammoniacal nitrogen concentration standards to safeguard aquatic ecosystem health downstream of the current compliance point (NRC Sample Site 1015941). I also stated that using a total nitrogen standard avoids uncertainty about what ammonia is (e.g., total ammonia, total un-ionised ammonia, total ammoniacal nitrogen).

After further consideration, I believe that the Condition 12 (Condition 8 in the 25 June 2019 version of the recommended resource consent) should require Far North District Council to upgrade the East Coast Bays Wastewater Treatment System to reduce the levels of ammoniacal nitrogen in the discharge. That is, the upgrade analysis would focus on reducing ammoniacal nitrogen (not total nitrogen) in the discharge.

I am reverting to my original position (see Northland Regional Council Notified Staff Report) because I consider that ammonia toxicity resulting from the discharge is the main issue of concern. I understand that the total nitrogen load compared to the total catchment load is small, and therefore the East Coast Bays Wastewater Treatment System is unlikely to be an important driver of the trophic state of the Parapara Stream and Awapoko River.

I consider that Condition 12 (Condition 8 in the 26 June 2019 version of the recommended resource consent) should require the Far North District Council to, within one year (not six months) of the commencement date of the consent, complete an analysis of options to reduce the ammoniacal nitrogen concentration in the treated wastewater from the wastewater treatment system so that the quality of the discharge does not exceed the following limits:

- (a) A median of 10 grams NH₄-N per cubic metre
- (b) A 92nd percentile of 15 grams NH₄-N per cubic metre

The options analysis would only be required if the Far North District Council decides not to obtain land for disposing treated wastewater.

The basis for the ammoniacal nitrogen limits are set out in the Northland Regional Council Notified Staff Report.

Condition 13 (Requirement for the options analysis to be undertaken by an independent, qualified and experienced person and to involve the Working Group)

I consider that a new condition (Condition 13) should be included in the recommended resource consent. Condition 13 would require: (a) the analysis of options required by Condition 12 to be undertaken by an independent person(s) qualified and specialised in wastewater engineering, and (b) involve the Working Group.

I believe it is important that an objective assessment of all upgrade options to meet the ammoniacal nitrogen limits is undertaken and that the Working Group is informed of the costs and benefits of each. I recognise that a lot of work has already been done to date, but it is important that a robust decision is made quickly.

² Zhou Chen and Rebecca Forgesson. 28 May 2018. Taipa WWTP Upgrade Issues and Options Report: For use at Taipa WWTP Working Group Hui #2. Prepared for Far North District Council by AECOM New Zealand Ltd.

Condition 14 (Requirement to provide Northland Regional Council with the decision and options analysis)

I consider that a new condition (Condition 14) should be included in the resource consent. Condition 14 would require the Far North District Council to provide the Northland Regional Council with: (a) the decision on the upgrade option, (b) a copy of the options analysis, and (c) the timeframe for implementing the preferred option.

Condition 16 (Requirement to comply with discharge quality standards)

On 26 June 2019, I told the Hearing Committee that I consider that the annual median and annual 92nd percentile discharge quality standards for ammonia (measured as NH₄-N) in Condition 11 of the Notified Staff Report version of the recommended consent should be replaced with discharge quality standards for total nitrogen, five-day biochemical oxygen demand (BOD₅), and total suspended solids (TSS).

I made the recommendation after discussing the matter with Dr Becky Macdonald. The discharge quality standards are based on the values in Table 2 of AECOM 2018.³

For the reasons set out above in relation to Condition 12, I consider that that the standards for total nitrogen should be replaced with standards for ammoniacal nitrogen.

I still consider that the standards for BOD and TSS should be included. This is reflected in the minor amendments to Schedule 1 (Monitoring Programme) of the recommended resource consent.

Condition 19 (Requirement to prevent discharges of noxious, dangerous, offensive or objectionable contaminants to air beyond the boundary of the Wastewater Treatment Plant)

The Independent Hearing Committee asked if Condition 19 (Condition 15 in the 26 June 2019 version of the recommended consent) is specific to the boundary of the Wastewater Treatment Plant, the boundary of the constructed wetlands, or both. The Committee also asked if it would be appropriate to include a map in the resource consent to show the boundary of the property.

I consider that the condition should only apply to the property boundary of the Wastewater Treatment Plant. I also consider that a map is not necessary because from a monitoring and enforcement point of view it is clear where the boundary is.

Other matters

Table 5-17 in the Northland Regional Council Notified Staff Report

The Independent Hearing Committee asked me to review the sample counts for dissolved oxygen and Faecal Coliforms in the water at NRC Sample Site 5941 in Table 5-17 of the Northland Regional Council Notified Staff Report. I have reproduced Table 5-17 below.

³ Zhou Chen and Rebecca Forgesson. 28 May 2018. Taipa WWTP Upgrade Issues and Options Report: For use at Taipa WWTP Working Group Hui #2. Prepared for Far North District Council by AECOM New Zealand Ltd.

TABLE 5-17: Sample Site 5941 – Quality of Water in the Unnamed Tributary of Parapara Stream immediately Downstream of the Farm Drain Confluence (August 2001 to February 2019)

	Dissolved Oxygen (g/m ³)	Faecal Coliforms (c/100mL)	NH ₄ -N (g/m ³)	pH	NH ₄ -N (g/m ³) pH adjusted
Median	4.80	190	2.91	6.81	1.67
Mean	4.72	425	5.36	6.85	3.28
Minimum	0.30	10	0.01	5.70	0.00
Maximum	7.90	2200	24.00	8.13	17.24
5 th percentile	0.34	25	0.01	6.05	0.06
20 th percentile	1.64	56	0.43	6.40	0.49
80 th percentile	6.56	528	9.06	7.15	4.83
95 th percentile	7.68	1640	18.30	7.66	10.33
Count	9	11	148	110	109

I made an error in calculating the number of samples for dissolved oxygen and faecal coliforms for the period August 2001 to February 2019. I have recalculated the water quality monitoring results from Sample Site 5941 for the period **January 2008 to February 2019** [*emphasis added*]. That said, I am mindful of Dr Becky Macdonald's statement that "I do not consider it appropriate to consider data older than 2012, preferably data no old than 5 years"⁴ when assessing the performance of the wastewater treatment plant.

	Dissolved Oxygen (g/m ³)	Faecal Coliforms (c/100mL)	NH ₄ -N (g/m ³)	pH
Median	5.75	700	3.25	6.84
Mean	5.57	1512	5.52	6.81
Minimum	2.01	60	0.01	5.70
Maximum	10.33	15400	24.00	8.13
5 th percentile	2.41	147	0.01	6.12
20 th percentile	3.33	262	0.44	6.46
80 th percentile	7.60	1848	9.60	7.18
95 th percentile	8.63	5925	18.50	7.78
Count	83	74	136	99

The legal status of the previous Independent Hearing Committee

The Independent Hearing Committee asked if the delegated decision-making power (i.e., authority) of the previous Hearing Committee (consisting of Commissioner Loraine Hill and Hamish Lowe) was revoked.

I understand that it was.⁵

The maximum daily discharge volume sought by Far North District Council

The Independent Hearing Committee asked me to confirm the maximum discharge volume sought by Far North District Council. The district council applied for a 1,570

⁴ Statement of Evidence of Rebecca (Becky) Joanne Macdonald. 10 June 2019. Paragraph 19.

⁵ Stuart Savill, Consents Manager, Northland Regional Council. Pers. comm. 25 June 2019.

cubic metre per day maximum dry weather discharge volume. The volume was based on a 30-day rolling average.⁶ However, the district council stated in its response to the RMA section 92 request that:⁷

In discussions between FNDC and stakeholder, it has been indicated that the preferred option is that no increase in the consented flow is allowed. The applicant has decided that the application will be revised so that the flow will remain at the current consented volumes of 1,005m³ / day.

That said, in early April I put several questions to Far North District Council in relation to the resource consent application and supporting documents (including its response to the RMA section 92 request). The questions and responses are attached to this document.

The third question that I asked was: “Is the dry weather flow still expected to be 1,570 m³/day in 2033, based on a 30-day rolling average?”

Natalie Blandford responded, on behalf of Far North District Council, that:⁸

The current average DWF is 408 m³/day – a fairly consistent rate. Therefore the expected flow rate of 1,570 m³/day still stands.

The fourth question that I asked (following on from question three) was: “If so, how will the treatment cope with the additional inflow if the applicant has decided that the application will be revised so that the flow will remain at the current consented volume of 1,005 m³/day?”

The Far North District Council responded:⁹

The application is to renew the existing consent to discharge up to 1570m³/day of treated wastewater on an average daily dry weather flow basis. FNDC is in the process of engaging a consultant to investigate options to achieve the consent application's proposed discharge parameters.

Therefore, I relied on the most recent correspondence and the original application when recommending, in the Notified Staff Report, a maximum daily dry weather volume of 1,570 cubic metres per day.

Having regard to relevant policies and objectives in the Proposed Regional Plan for Northland Regional Council

The Independent Hearing Panel asked me to comment on the legal status of provisions (policies and objectives) in the Proposed Regional Plan that are relevant when considering Far North District Council's application for a resource consent authorise discharges from the East Coast Bays Wastewater Treatment Plant. As mentioned in the Notified Staff Report, the Proposed Regional Plan for Northland

⁶ VK Consulting Environmental Engineers. 28 May 2008. East Coast Bays Wastewater Treatment System – Resource Consent Renewal. Supporting Information. Prepared on behalf of Far North District Council

⁷ VK Consulting Environmental Engineers. April 2009. East Coast Bays Wastewater Treatment System Resource Consent 4007 Renewal. Response to Section 92. Prepared for Far North District Council. Section 2, page 3.

⁸ Natalie Blandford. 30 April 2019. Pers. comm.

⁹ Ibid.

was notified in September 2017. Submissions on the Proposed Regional Plan were heard by an Independent Hearing Panel in August to late October 2018. On 16 April 2019, Northland Regional Council accepted and adopted the recommendations of the hearing panel. Appeals to the Environment Court on the content of the Proposed Regional Plan closed on 17 June 2019.

The Hearing Committee for Far North District Council's application must have regard to, among other things, any relevant provisions in a proposed regional plan. That said, the level of "weight" to give to each provision is to be determined based on the following case law principles:

- (a) The extent that the plan has progressed through the plan-making process
- (b) The extent that the proposed provision has been subject to independent testing or decision making
- (c) Circumstances of injustice, and
- (d) The extent to which a new provision, or the absence one, might implement a coherent pattern of objectives and policies in a plan.

I stated in the Notified Staff Report that the following provisions of the Proposed Regional Plan are relevant when assessing Far North District Council's application for resource consents:

- Objective E.1.1 (Catchment-specific values)
- Objective F.1.2 (Water quality)
- Objective F.1.5 (Regionally significant infrastructure)
- Objective F.1.8 (Tangata whenua rule in decision-making)
- Objective F.1.11 (Natural character, outstanding natural features, historic heritage and places of significance to tangata whenua)
- Policy D.1.4 (Managing the effects on places of significance to tangata whenua)
- Policy D.1.5 (Places of significance to tangata whenua)
- Policy D.2.2C¹⁰ (Benefits of regionally significant infrastructure)
- Policy D.2.2DB¹¹ (Maintain
- Policy D.4.5¹² (Maintaining overall water quality)
- Policy D.4.7A¹³ (Municipal, domestic and production land wastewater Discharges)
- Policy D.4.8¹⁴ (Zone of reasonable mixing)

¹⁰ Please note that the correct reference is D.2.5. I relied on the track-change version of the decision's version of the plan, rather than the 'clean' version.

¹¹ Please note that the correct reference is D.2.8. I relied on the track-change version of the decision's version of the plan, rather than the 'clean' version.

¹² Please note that the correct reference is D.4.1. I relied on the track-change version of the decision's version of the plan, rather than the 'clean' version.

¹³ Please note that the correct reference is D.4.3. I relied on the track-change version of the decision's version of the plan, rather than the 'clean' version.

¹⁴ Please note that the correct reference is D.4.4. I relied on the track-change version of the decision's version of the plan, rather than the 'clean' version.

- Policy E.2.1 (Catchments)
- Policy H.5.1¹⁵ (Water quality standards for rivers)

It is important to note that Policies D.1.4, D.1.5, D.2.5, D.2.8, D.4.1 and H.3.1 and Objectives F.1.2, F.1.5 and F.1.11 are under appeal. That means they may change because of a consent order or because of a court decision. With respect to the case law principles listed above, the relevant provisions under appeal have yet to fully progress through the plan-making process and they have yet to be subject of independent testing or decision-making in the Environment Court (if mediation is not successful).

The appeals to the Environment Court can be found here:

<https://www.nrc.govt.nz/your-council/about-us/council-projects/new-regional-plan/council-decision/appeals-to-proposed-regional-plan-council-decision/>

The 'appeals' version of the Proposed Regional Plan is expected to be publicly available on the week starting Monday, 15 July 2019.

¹⁵ Please note that the correct reference is H.3.1. I relied on the track-change version of the decision's version of the plan, rather than the 'clean' version.