



Our Ref: APP-123774 (*quote this number when discussing application with HBRC staff*)

26 March 2019

Wairoa District Council
C/- Lowe Environmental Impact
P O Box 4667
Palmerston North 4442

For the attention of: Hamish Lowe

Dear Sir

REQUEST FOR FURTHER INFORMATION

We have reviewed your resource consent application APP-123774 – the activities and discharges associated with the receipt, treatment, storage and general management of wastewater received at the Wairoa Wastewater Treatment Plant.

In conjunction with the application documents and information provided in the table of questions sent to you on 22 February 2019 (see attached Appendix 1 – which includes the original table of questions, your responses received 19 March 2019 and our review as at 25 March 2019), more information is needed so that our technical experts and I can better understand your proposed discharge and its potential effects.

In accordance with Section 92 of the Resource Management Act (1991) (RMA) I request the following information is provided as we believe the questions have not been answered satisfactorily (as per appendix 1 column 4):

| Questions not satisfactorily answered from appendix 1 | Recommended response/clarification |
|---|--|
| 1a) Please confirm how sensitive are the model results likely to be to changes in the geomorphology of the river mouth or position of the outfall (given it is proposed this structure can be moved). | The response received suggests the model sensitivity to the geomorphology of the river mouth and position of the outfall is not an issue. In contrast the modelling report concludes “The morphology of the river mouth regularly changes over time and this will have some influence over hydrodynamics of the area which will in turn influence the pattern of dilution of the outfall”. Therefore more information is required to support the response provided. That should take into account the wide and rapid variation in mouth position (including occasional closures), the fact that fishing activities are carried out in the area that may be affected by the plume, and that, modelling was used to support the development of the discharge regime and the design of the proposed benthic monitoring programme (and potentially other decisions). |
| 1b) Please confirm what, if any, key decisions were predicted on the model outputs and if so, what, if any, contingencies have been put in place to manage uncertainties. | The response provided answers the question, however further information sought under Point 1a (above) is required to determine if the response is reasonable. |

| | |
|--|--|
| <p>1c) Please provide confirmation of how the dispersal and dilution patterns should be interpreted for different types of contaminants.</p> | <p>The response received suggests discharged contaminants will be largely soluble and unlikely to bind to the riverbed sediments or settle out within the estuary, so the modelled plumes will fairly represent the behaviour of all of these contaminants. Yet the assessment of effects is largely based on benthic sediments and communities, which suggests eCoast (and earlier science providers) believed there is potential for benthic impacts. This discrepancy needs to be addressed.</p> |
| <p>1d) Please provide bubbleplots of silt values overlaid on the sheer stress plots. This will assist with interpreting the relationship between these parameters given there are a number of anomalies that do not make intuitive sense.</p> | <p>The response received seems to imply that the modelling is not a good predictor of physical benthic processes in the lower river. If so, should related modelling results related to shear stress be disregarded? Please confirm.</p> |
| <p>1e) Please provide information/advice on the potential influence of changes in the mouth morphology on shear stress, and potential areas of sediment and contaminant accumulation.</p> | <p>The response received seems to imply that the modelling is not a good predictor of physical benthic processes in the lower river. If so, should related modelling results related to shear stress be disregarded? Please confirm.</p> |
| <p>2c) Please confirm whether nuisance macroalgae blooms are present in the lower Wairoa River and if so please provide information regarding this.</p> | <p>The response received seems to be focussed on freshwater blooms, whereas we were primarily seeking information on whether nuisance macroalgae blooms are present in the lower Wairoa River (perhaps the question should have been more specific and said the estuarine section around the outfall). Please provide a response to suit.</p> |
| <p>2d) Please provide information regarding the potential effects on the benthic macrofauna and sediment quality as a result of the re-positioning of the WWTP outfall.</p> | <p>We agree that relocating the outfall is likely to relocate the localised area of organic enrichment of the sediment and any effects on macrofauna. What we don't know is whether the benthic values are the same across the proposed outfall site. For instance, are there any shellfish beds that should be avoided?</p> |
| <p>3a) Please provide a copy of the procedure for the handling of unearthed human remains, taonga tuturu, and artefacts that WDC is going to adopt and provide an amended copy of the proposed consent conditions that includes this requirement.</p> | <p>Can you please confirm when this document is likely to be available for Council staff to review? Our preference is prior to the drafting of the section 42A report.</p> |
| <p>3c) Please confirm if there were discussions with tangata whenua around the proposed stages of the BPO being "aspirational" only and that there is a possibility that the discharge into the Wairoa River may continue similar to the current practice (with better treatment)? The Cultural Impact Assessment states that the discharge to the river is culturally offensive and discusses the need to move to a land application discharge method to reduce the effects on Maori cultural values.</p> | <p>It is recognised from your response that the intention is there for WDC to work towards a reduction in the discharge into the Wairoa River, however the potential that this may not occur is not reflected in the Cultural Impact Assessment. There is no application document that we can refer to confirming tangata whenua have acknowledged that the proposal is "aspirational". Please provide written confirmation (meeting minutes or records or similar) when and what discussions have been had with tangata whenua regarding this matter.</p> |
| <p>4a) Please provide evidence that the data set modifications prescribed in Report A211 do not significantly modify the resultant summary data.</p> | <p>Modification of the data sets to remove erroneous data is acceptable, but by replacing erroneous data with values that lie within the existing consent parameters (rather than deleting the data point), this skews the data set. Please provide evidence that the data set modifications prescribed in Report A211 do not</p> |

| | |
|---|---|
| | significantly modify the resultant summary data, preferably by comparing median and percentile values for original data. |
| 4b) Provide full data sets and summary calculations, including graphical and statistical representations of performance, that form the basis of AEE table 5.3: i. Historical performance flow and load/concentration data for the WWTP; ii. Historical influent parameter records (flows and loads). iii. Confirm whether there is any treatment plant influent and effluent performance data for 2017 and 2018. | The proposed solution relies on network improvements to maintain effluent quality. However there is no quantification of the expected flow improvements, or analysis of treatment plant performance based on the revised flows to the plant. Given that the plant is currently likely to be experiencing significant benefit from dilution within the network, evidence is required that the treatment plant performance expected after the proposed upgrades will maintain or improve the discharge loads into the environment. Please provide evidence that the pond treatment performance after the proposed network and other upgrades has been assessed to be the same or better than the current discharge load, and the basis influent flow and load data (existing and post upgrade) used to form this evaluation. |
| 4c) Provide technical assessment of the pond treatment capacity against established pond design parameters. This should cover at least historical kgBOD/ha.day, and assessment of changes to performance due to reduced I&I in the network, and changes to the treatment process. | Section 5.4 of LEI 2017:A211 provides a brief explanation of the pond loadings currently experienced in the WWTP. However these reference a pond loading rate of 84 kgBOD/ha/d which is not relevant to the partially aerated pond. In addition, cBOD values are used, which are different to BOD loadings (BOD is typically 1.1 to 1.3 times higher). Taking into account estimates of BOD loadings, and aerated pond discharge values, the facultative pond is likely to be 1.5 to 1.8x overloaded when compared to the design loading rate provided. Given the current apparent overloading, and time since desludging the facultative pond, please provide evidence that the capacity of the aerated and facultative ponds are effectively analysed to confirm the effect of the proposed network and WWTP changes, demonstrate that effluent quality will be no worse on a load and concentration basis. |
| 4f) Provide median and other percentile performance data for the existing pond such that ongoing median values can be considered for consent conditions. | Please provide median and 10th and 90th percentile performance data for the existing pond to assist with developing consent conditions. |
| 6a) Please provide details (including a map) identifying what and where edible species of kaimoana can be gathered around the river mouth. | Information provided indicates that: the estuary is not conducive to shellfish thriving and no shellfish harvesting occurs, but flounder are caught. However, a map of where fishing occurs is not provided (because it is considered to be a significant task, and WDC are unsure of its value and relevance for this consent application). We consider knowing what and where kai moana are harvested to be a key consideration for a wastewater outfall in an enclosed estuary such as this. It would also seem a relatively simple exercise for the Council to (at least) map its understanding of where harvesting occurs. |

| | |
|--|--|
| <p>6b) Please confirm what funding options WDC has investigated in assisting with the costs associated with the BPO and if purchasing of land was included in this investigation.</p> | <p>Evidence of other funding options has not been provided, please provide or is WDC solely waiting on the three waters review? Please confirm.</p> |
| <p>7a) Please provide a monitoring plan which is to include the following;</p> <ol style="list-style-type: none"> The objectives of monitoring, The actual issues of concern, the monitoring required to detect trends and ensure adverse effects remain within acceptable ranges (parameters, sites, times and sampling methods), Confirm how in-river monitoring will be integrated with discharge monitoring, include how discharge volumes and loads will be determined, Confirm how the results will be used to inform and adapt the management of the wastewater network and treatment plant over the duration of the consent. | <p>Can you please confirm when this document is likely to be available for Council staff to review? Our preference is prior to the drafting of the section 42A report.</p> |
| <p>9a) Given the Wairoa Wastewater Stakeholder Group (WWSG) was formed in late 2016 with terms of reference established in early 2017, consent conditions 19 and 20 do not seem necessary or is WDC proposing another stakeholder group be created? Can you please confirm the status of the WWSG plus submit a copy of all meeting minutes held for the WWSG and terms of reference.</p> | <p>A copy of all of the meeting minutes is considered important in confirming what discussions were had during these meetings and with whom. Please provide a copy of all meeting minutes held for the WWSG.</p> |
| <p>9c) Council has concerns regarding the 35 year duration sought for this application, particularly as after the 10th year stages 3 and 4 of the BPO are considered to be aspirational only with no certainty given that additional storage and irrigation will actually occur. Can you please advise what certainties WDC can give in regards to additional storage, irrigation areas, reduced incidences of emergency overflows and river discharge volumes, as it is not clear in the application or consent conditions that a 35 year duration can be justified.</p> | <p>The response provided does not provide any certainty therefore does not reflect the 35 year duration that WDC is seeking. Unless further justification can be provided (i.e. proposed consent conditions) then it is recommended that the applicant reviews/amends their proposed consent duration to ensure it reflects the treatment and mitigation measures they are proposing (excluding the aspirational land discharge and associated storage component).</p> |
| <p>9d) - Please provide further treatment options/mitigation measures if the discharge into the Wairoa River is to continue at the stage 1 level proposed of the BPO.</p> | <p>Council disagrees with the response provided and suggest that WDC reassess this question. The further treatment options requested could be/should be appropriate to reduce adverse effects on Maori cultural values and mitigate other effects/concerns regarding the continued discharge to the river.</p> |
| <p>9e) Please confirm whether there has been any sensitivity testing of the proposed 60m³/s median flow in the Wairoa River. If the actual median flows of the river change over time, what will impact will this have on either effects, or ability to achieve conditions.</p> | <p>The discharge triggers have been linked arbitrarily to a median river flow of 60m³/s. Given the consent term being sought, and potential population and climate change over that time, could a link be provided in the consent conditions such that the flows at the trigger values are updated with changing median river flows and discharge flows?</p> |

| | |
|---|--|
| <p>9g) Please confirm why soluble carbonaceous five-day Biochemical Oxygen Demand (ScBOD5) is proposed for the consent measurement? Has there been any performance data for the existing plant been collected to date for this parameter?</p> | <p>Please confirm why soluble carbonaceous five-day Biochemical Oxygen Demand (scBOD5) is proposed for the consent measurement? Has there been any performance data for the existing plant been collected to date for this parameter?</p> |
| <p>10) The cultural values outlined in the CIA should underpin the proposed consent conditions of this proposal. Removing the discharge from the Wairoa River is paramount (to provide for the cultural values set out in the CIA) and the BPO sets out stages where this can be gradually improved overtime. Stages 3 and 4 of the BPO have been described as aspirational, which is of concern to Council. This however is not mirrored in the CIA which states “...by year 30 <i>The Package will have delivered an achievable, positive result for the river’s cultural values and health in a manner which has been well consulted upon and which is realistically achievable, acceptable and, with good planning, affordable for the Wairoa Community</i>”. Council also have concerns regarding the difficulty in finding and securing appropriate land to irrigate on, particularly as this is wholly reliant on a 3rd party (long term) participation. Therefore, to reflect the cultural values identified in the CIA, the existing resource consent (previously known as WP180173 – applicant P I and J R Mucalo) could be amended to reflect the proposed BPO (which is likely to be publically notified) or alternatively could be included in this application with proposed consent conditions amended to suit. Alternatively, please provide a pathway/amended consent conditions so give Council certainty that land application options will be explored and implemented.</p> <p>We note the effects on cultural values, particularly tangata whenua, are effects that we need to consider as the discharge of treated wastewater into the Wairoa are likely to remain. Nigel How confirmed in the CIA “The effects of the current discharge regime on the river’s cultural values are at odds with tangata wheuna worldviews and is culturally offensive”, unless the wastewater is treated to a 100% drinkable quality then this view would apply even with the proposed filtration and UV treatment proposed in stage 1.</p> | <p>Council does not consider this question appropriately addressed and would have thought that the CIA would have been amended prior to this application being made to include any discussions that have been made with tangata whenua confirming that land discharge and associated storage are aspirational and may not occur (question 3).</p> <p>Therefore Council are seeking the section 92 issues identified in the letter dated 7 May 2018 for application DP180173L - P I and J R Mucalo be provided as soon as possible, this information was due on 30 May 2018 (see attached copy for your reference). This information is required so Council can assess both applications simultaneously/bundle the applications for processing if it is considered the best option. A copy of this letter and previous correspondence will also be sent to Paul Mucalo.</p> |

You must respond in writing to this request, before Tuesday 16 April 2019 and do one of the following:

- a) Provide the information.
- b) Tell us that you agree to provide the information, but propose an alternative reasonable date (suggest a date).
- c) Tell us that you refuse to provide the information.

It is important that you respond to this request, otherwise your application can be declined for a lack of information. We may also decline your application if you refuse to provide the information.

Please use the attached form to respond to this information request. If you prefer you can email your response to tania.diack@hbrc.govt.nz.

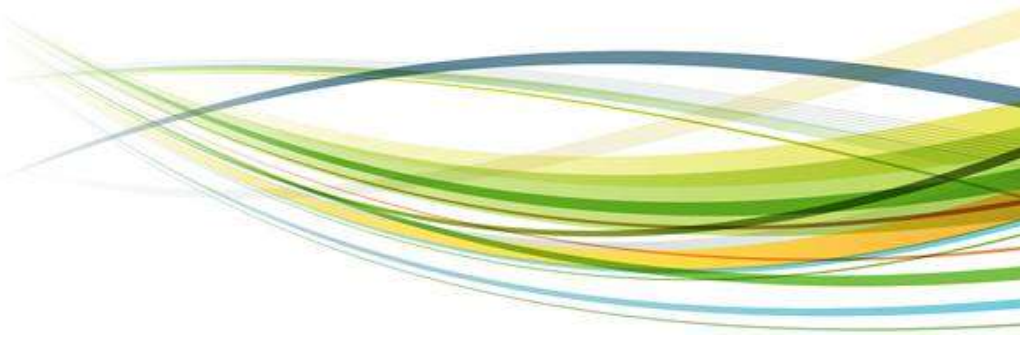
I have put processing of your application on hold until we receive your response.

Please contact me on (06) 833 8091 if you have any questions.

Yours faithfully



TANIA DIACK – SENIOR CONSENTS PLANNER
REGULATION GROUP
PH (06) 833-8091
tania.diack@hbrc.govt.nz



To: Tania Diack

**Hawke's Bay Regional Council
Private Bag 6006
Napier**

In response to the Council's request for further information dated 26 March 2019 relating to the activities and discharges associated with the receipt, treatment, storage and general management of wastewater received at the Wairoa Wastewater Treatment Plant.

Please tick your response.

- the information requested is attached
- I'm unable to provide the information by 16 April 2019, but could send it to you by

- I refuse to provide the information.

Signature of applicant or authorised agent: _____

Name: _____ Date: _____

Please print full name of person who signed above.

Wairoa Wastewater Treatment Plant and Reticulation Network Discharges – APPENDIX 1

Following the site visit with both HBRC and WDC representatives on 8 February 2019, a number of matters were raised by HBRC staff and technical experts. The following table of questions are to be resolved prior to a formal section 92 information request being sought (if necessary and potentially section 91 if necessary) with clarification provided by WDC; **(Updated 25 March 2019 as per column 4)**

| Key points of discussion and who has requested the further information | Question(s) to applicant & request for further information | Clarification provided by Wairoa District Council | Answer satisfies/does not satisfy HBRC's information requirement |
|--|--|---|--|
| <p>1) Hydrodynamic modelling: (Shane Kelly – pages 2 and 3 of memo)</p> | <p>1a) Please confirm how sensitive are the model results likely to be to changes in the geomorphology of the river mouth or position of the outfall (given it is proposed this structure can be moved).</p> | <p>We don't consider this to be an issue, as the primary control for dispersion of the discharge plume is the nearby river channel flow, not the location of the river mouth. Changes in the river mouth location will not affect the initial rapid dispersion within 100 m of the discharge to an extent that requires changes to methods used for managing or avoiding adverse effects in the estuary. The intention is for the outfall to be able to be moved to a location that is no further away from (and preferably much closer to) the active river channel so that the rate of dispersion and extent of the plume before 100-fold dilution is at least as good as currently achieved and modelled.</p> <p>The discharge is set back some 500 m from the coastal dune/mouth/bar while the primary mixing zone is within 100 m of the discharge. At the time of eCoast's modelling the river mouth was about 500 m from the discharge, but at the time of our February site visit it was about 1 km away, between Rangihoua and Whakamahi Lagoon.</p> <p>The modelling was based on the measured channel morphology and river flows, so any changes in the river mouth location will alter the flows near the coastal dune/bar. It will also affect the eddies and mixing zones on each side of the river mouth. However, the eCoast information suggests the discharge will have already diluted 250 times before encountering these eddy zones.</p> | <p>This answer does not satisfy Council's requirements and this information is still sought, see comment on page 1 of the section 92 letter</p> |
| | <p>1b) Please confirm what, if any, key decisions were predicted on the model outputs and if so, what, if any, contingencies have been put in place to manage uncertainties.</p> | <p>Section 5.3.4 of the Conceptual Design report summarises the development of the discharge regime. There was some circular decision-making and checking of effects from possible discharge regimes for model scenarios and the conceptual design. The scale of uncertainties and environmental effects were conservatively calculated by using the worst-case upper limits on daily discharge volumes into lower limits on river flows plus upper ranges of discharged contaminant concentrations. The 99th percentile plumes predicted by the model were also used to represent the worst-case</p> | <p>This answer satisfies HBRC's information requirement – however further information is sought under question 1a) to determine if the response is reasonable</p> |

| | | | |
|--|--|--|---|
| | | events. The typical plumes and concentrations will be less than the 99th percentiles so this approach allows plenty of room for contingencies and uncertainties. | |
| | 1c) Please provide confirmation of how the dispersal and dilution patterns should be interpreted for different types of contaminants. | <p>All contaminant concentrations at any location within the plume can be simply estimated by multiplying the initial contaminant concentration by the dilution factor predicted by the hydrodynamic model at a specific location.</p> <p>After filtration and disinfection systems have been installed at the WWTP, the discharged contaminants will all be largely soluble and unlikely to bind to the riverbed sediments or settle out within the estuary, so the modelled plumes will fairly represent the behaviour of all of these contaminants. The assessment is also conservative because it assumes no attenuation or transformation effects upon entering the river. In reality, any remaining E. coli (and most pathogens) will die off rapidly due to contact with seawater and sunlight UV, and some chemical reactions in the river environment may transform some of the discharged contaminants into other compounds (which may be more inert and less environmentally concerning).</p> | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 2 of the section 92 letter |
| | 1d) Please provide bubbleplots of silt values overlaid on the sheer stress plots. This will assist with interpreting the relationship between these parameters given there are a number of anomalies that do not make intuitive sense. | Note that the river mouth migrates randomly and frequently so the sediment layers and compositions that have accumulated over long timeframes don't necessarily reflect the river mouth location at the times of surveys. Also, the river mouth locations and rates of silt accumulation between surveys are not monitored, so it's difficult to correlate sediment compositions with changes in shear stress and river mouth location. | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 2 of the section 92 letter |
| | 1e) Please provide information/advice on the potential influence of changes in the mouth morphology on shear stress, and potential areas of sediment and contaminant accumulation. | Historic Google Earth imagery of the estuary with the benthic ecological studies, show how the sedimentation and river channel patterns have changed in response to changing shear stress patterns. The building out of the mudflats between Fitzroy Street and Rangihoua is obvious over only a few years (5-10 years). Over a much longer time scale, the erosion of Rangihoua is apparent in its receding eastern cliff face and undermining of WWII gun bunkers that were originally on hilltops but are now adjacent to or submerged in the estuary. | This answer does not satisfy Council's requirements and this information is still sought, see comment page 2 of the section 92 letter |
| 2) Ecological Assessment: (Shane Kelly – pages 3 and 4 of memo) | 2a) Please provide confirmation as to the source(s) of the high sediment concentrations of lead present around the Fitzroy Street pump station overflow. | The source is unknown but clearly is unlikely to be related to the treated wastewater, as lead is not a feature near the main outfall and there are no lead sources in Wairoa. It is most likely that these lead results relate to dumped materials or perhaps some historic stormwater events. The lab results show huge variation of lead over several individual samples and sediment depths at this location, so it is clearly related to a very localised lead deposit, and not on-going lead discharges and general accumulation in the sediments. | This answer satisfies HBRC's information requirement |

| | | | |
|---|--|---|---|
| | 2b) Please provide the original laboratory results referenced in report eCoast 2018:C5 – Assessment of Environmental Effects – Marine Ecology. | See attached (originally for eCoast 2018:A3D3). | This answer satisfies HBRC's information requirement |
| | 2c) Please confirm whether nuisance macroalgae blooms are present in the lower Wairoa River and if so please provide information regarding this. | HBRC's 2016 report on river water quality trends at SOE sites upstream of Wairoa indicated that "DIN/DRP ratios indicate that ... most sites in the Wairoa catchment have nutrient ratios indicative of co-limited conditions. Given that concentrations of both DIN and DRP are low to moderate at these sites, this means that both nutrients are likely to partially limit periphyton growth." and "Periphyton biomass levels across the catchment are generally low, and ... are below both the 120 mg/m3 'recreational' and 50 mg/m3 'biodiversity' thresholds." | This answer does not satisfy Council's requirements and this information is still sought, see comment page 2 of the section 92 letter |
| | 2d) Please provide information regarding the potential effects on the benthic macrofauna and sediment quality as a result of the re-positioning of the WWTP outfall. | Relocating the outfall will potentially relocate the localised area of organic enrichment of the sediment and any effects on macrofauna. The reductions in discharge events and modified discharge regimes resulting from potential irrigation and storage expansion will ensure that future outfall locations will have negligible adverse effects on sediment quality and macrofauna within ever-smaller zones around the outfall. | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 2 of the section 92 letter |
| | 2e) Please provide additional comment on the potential effects of emerging contaminants of concern. | These are unlikely to be of any greater concern for Wairoa than for any other town's wastewater discharges. The discharge into a comparatively large river flow, rapid dilution, and proximity to the coast mean that there is minimal opportunity for EOC's to remain at potentially harmful concentrations and potentially affect fish. | This answer satisfies HBRC's information requirement |
| 3) Cultural Values: (Tania Diack – reference material Cultural Impact Assessment and Tanagata Wheuna Worldviews for Wastewater Management in Wairoa) | 3a) Please provide a copy of the procedure for the handling of unearthed human remains, taonga tuturu, and artefacts that WDC is going to adopt and provide an amended copy of the proposed consent conditions that includes this requirement. | WDC are developing these protocols based on standard heritage/archaeological and Maori protocols. We will provide them to HBRC prior to the Hearing. The protocols need to address the interests and expectations of all interested parties and authorities including iwi, hapu, HBRC, DOC, and Heritage NZ Pouhere Taonga. | This answer satisfies HBRC's information requirement – however please see comment on page 2 regarding this matter |
| | 3b) Please confirm if during the relocation of any structure within the river bed is it envisaged approval will be obtained by tangata whenua or if the works will be overseen by a tangata whenua representative? | Tangata whenua will be represented on the reserve management board which will need to be providing approval for this too. Tangata whenua could be informed prior to works commencing each time and could be entitled to have an observer. Overall however, the activity itself will be reflective of the existing situation i.e. an outfall structure in the area will not be a foreign concept, while comprehensive conditions are proposed around certification and construction to ensure effects will be less than minor. | This answer satisfies HBRC's information requirement |

| | | | |
|---|--|--|---|
| | <p>3c) Please confirm if there were discussions with tangata whenua around the proposed stages of the BPO being “aspirational” only and that there is a possibility that the discharge into the Wairoa River may continue similar to the current practice (with better treatment)? The Cultural Impact Assessment states that the discharge to the river is culturally offensive and discusses the need to move to a land application discharge method to reduce the effects on Maori cultural values.</p> | <p>Yes, tangata whenua were a key group involved in the Stakeholder group. Iwi views were integral with and drivers of the BPO selection including the acknowledgement of the aspirational nature of the longer-term developments. They agreed that the improvements over time will be better than the existing situation. They agreed that time was required for implementing steps towards the ideal goal of 100% land treatment and acknowledged that this goal may not be achievable within the next 30 years. They also understood that this meant there was a delay in achieving that aim but it allowed costs to be spread more affordably (potentially with external funding), allowed for reticulation improvements to reduce flows, and provided certainty that steps would continue to be taken by WDC. Also refer to the answers below to question 10 regarding the CIA. Further, although acknowledged to be aspirational, this doesn’t mean there isn’t an intent to work towards these outcomes. Indeed, this is the very purposes of the proposed condition framework.</p> | <p>This answer does not satisfy Council’s requirements and this information is still sought, see comment page 2 of the section 92 letter</p> |
| <p>4) Existing WWTP, reticulation network and BPO:</p> | <p>4a) Please provide evidence that the data set modifications prescribed in Report A211 do not significantly modify the resultant summary data.</p> | <p>Some of the data modifications had large effects on the average (mean) and upper percentile values. Deleting the clearly unrealistically high results would have had a similar effect to the adjustments we made to achieve more realistic results. It was very important to ensure that such high erroneous results did not skew the statistics relied upon for all future aspects of this project. The original means and maxima were unrealistically high, which is what triggered us looking for the individual results responsible for these unrealistic statistics.</p> | <p>This answer does not satisfy Council’s requirements and this information is still sought, see comment on pages 2 and 3 of the section 92 letter</p> |
| <p>(Nick Dempsey – page 11 of memo)</p> | <p>4b) Provide full data sets and summary calculations, including graphical and statistical representations of performance, that form the basis of AEE table 5.3:</p> <ul style="list-style-type: none"> i. Historical performance flow and load/concentration data for the WWTP; ii. Historical influent parameter records (flows and loads). iii. Confirm whether there is any treatment plant influent and effluent performance data for 2017 and 2018. | <p>We do not believe that this information is directly relevant to the discharge consents. While performance has a bearing on effluent quality and loads, the future I & I and treatment enhancements will ensure that the future treatment performance and discharge quality will be better than historic data.</p> <ul style="list-style-type: none"> i. We haven’t calculated these apart from the overall means in Table 5.2 and section 5.4 of LEI, 2017:A211. ii. See Table 5.2 of LEI, 2017:A211. iii. Monthly influent quality sampling ceased in December 2017. Monthly effluent quality sampling continues to occur. | <p>This answer does not satisfy Council’s requirements and this information is still sought, see comment on page 3 of the section 92 letter</p> |
| | <p>4c) Provide technical assessment of the pond treatment capacity against established pond design parameters. This should cover at least historical kgBOD/ha.day, and assessment of changes to performance due to reduced I&I in the network, and changes to the treatment process.</p> | <p>The final paragraphs of section 5.4 of LEI, 2017:A211 provided this. It noted that BOD had never been monitored but, based on CBOD, the load on the surface area of the entire WWTP is 394 kg CBOD/ha/d which is 4.7 times the NZ recommended guideline value of 84 kg BOD/ha/d. However, it should be noted that the aerated lagoon reduces CBOD by about 75%, so the load on the main oxidation pond is only slightly above this guideline value. Reductions</p> | <p>This answer does not satisfy Council’s requirements and this information is still sought, see comment on page 3 of the section 92 letter</p> |

| | | | |
|--|---|---|---|
| | | in I & I will reduce flow rates, reduce dilutions, and increase BOD concentrations, but the overall load will remain unchanged. | |
| | 4d) Confirm when the two ponds were last desludged, and what are the measured sludge levels at present. | The aerated lagoon was most recently de-sludged in April 2018, with about 517 m3 (dry basis) removed. The maturation pond was most recently de-sludged in May to September 2010. We do not believe that this information is directly relevant to the discharge consents but is simply an operational matter that WDC need to keep on top of in order to maintain the WWTP's treatment performance and discharge quality. | This answer satisfies HBRC's information requirement |
| | 4e) Only four compliance reports are included in the assessment in A211, up to the year 2014. Were additional compliance reports available for inclusion in the assessment and if so, what is their impact on A211 Table 7.1. Previous compliance reports for the compliance years 2008-2009, 2009-2010 and 2012-2013 are available from Council if needed. | At the time of gathering information for this report, only those four compliance reports were available from HBRC and WDC staff. More recent reports have not been sought but instead WDC's monitoring data was relied on. WDC have acknowledged that rates of compliance with daily discharge volumes and timing have continued to be problematic during and immediately after storm events. It was not considered of any benefit to seek or review older reports, especially as flow characteristics are changing as a result of reticulation improvements. | This answer satisfies HBRC's information requirement – HBRC to provide copies of previous compliance reports to Nick Dempsey for reference |
| | 4f) Provide median and other percentile performance data for the existing pond such that ongoing median values can be considered for consent conditions. | Median values were presented in Table 5.2 of LEI, 2017:A211. 90th percentile values are pH = 8.3, DO = 14.7, COD = 260, NH3-N = 28, TSS = 118, cBOD = 55, and E. coli = 135,000. | This answer does not satisfy Council's requirements and this information is still sought, see comment page 3 of the section 92 letter |
| | 4g) Confirm whether membrane filtration was considered in the BPO long list of options in lieu of filtration and UV. | Sand filtration was selected in consultation with iwi and the community partly because it involves contact with minerals and geological matter which reflect Maori tikanga that human wastes can only have their mauri restored through contact with Papatuanuku. Further, sand filtration would assist in algae removal to allow more effective UV treatment. Membrane filtration would have served no benefit over and above the proposed solution, and would not have had any positive cultural value. | This answer satisfies HBRC's information requirement |
| | 4h) Does the proposed programme to improve network conditions quantify the expected improvements in influent wastewater? | No. Historic data when flows were lower and population was higher guides expectations for future flow reductions. Overall, not much changes in the treated wastewater quality because the load remains static or declines with declining population. | This answer satisfies HBRC's information requirement |
| 5) Emergency overflow pipes (Tania Diack) | 5a) Please confirm if the treated discharge pipeline overflow for the main discharge still discharges into an adjacent stormwater channel or is now | Details in the AEE for consent application DP180254L and WDC's infrastructure records indicate that the main outfall's emergency overflow currently uses a dedicated 375 mm pipe that is not connected to any stormwater drain near the coast, and it will continue | This answer satisfies HBRC's information requirement |

| | | | |
|---|---|--|--|
| | discharging into a separate overflow pipe. Please provide plans that show the pipeline configuration (for both sewer and stormwater for the Fitzroy pump station and WWTP going into the main outlet discharge and overflow). | to do so until the outfall pipeline can be moved and perhaps have its diameter enlarged. I & I reductions will also assist. | |
| | 5b) Please confirm if the Fitzroy Pump Station gets inundated during storm events similar to the other three pump stations and where does this overflow discharge to. | Yes it has in the past, but only during one very large storm since December 2017. These overflows will be mainly stormwater with a small wastewater component. The wet well's emergency overflow feeds into the main outfall pipeline and out to the river discharge structure. The treated wastewater from the WWTP will mix with the Fitzroy Street overflows within the pipe before discharging into the river. | This answer satisfies HBRC's information requirement |
| | 5c) Please confirm if investigations into removing the emergency overflows has been done in conjunction with the proposed upgrades and network improvements, particularly as they will be discharging less diluted wastewater into the river. Please provide information regarding this work. | Yes, the reticulation proposals have been designed in an integrated manner. The emergency overflow pipes won't be removed at any stage, as they will always be needed for protecting the reticulation from excessive pressure. Overflows will still require the same flow rate and volume of stormwater to trigger such events, so the dilution will be very similar to historic dilutions. What will change is the intensity of storm (mm/h and its duration) and the frequency of events that will need to occur in order to trigger overflows – larger and longer storms that occur less frequently will be needed. | This answer satisfies HBRC's information requirement |
| 6) Other (Shane Kelly – page 8 of memo) | 6a) Please provide details (including a map) identifying what and where edible species of kaimoana can be gathered around the river mouth. | As consistently shown by the benthic surveys, and eCoast's spatially broader study, the estuary is not conducive to shellfish thriving. Surveys and feedback from local residents indicated that there is no harvesting of shellfish here. Flounder are caught in the estuary, but otherwise all fishing activities occur in the marine area. Producing a map is a significant task, and we are unsure of its value and relevance for this consent application. | This answer does not satisfy Council's requirements and this information is still sought, see comment page 3 of the section 92 letter |
| (Tania Diack) | 6b) Please confirm what funding options WDC has investigated in assisting with the costs associated with the BPO and if purchasing of land was included in this investigation. | Yes purchasing land was considered but that's not preferred, as leasing is cheaper while retaining a farm manager who has a vested interest in the land and animal health. Other central government funding options have been explored, and there is hope that funding may ultimately become available as a result of the three waters review. | This answer does not satisfy Council's requirements and this information is still sought, see comment page 4 of the section 92 letter |
| 7) Discharge Monitoring parameters (Shane Kelly pages 6 and 7 of memo) | 7a) Please provide a monitoring plan which is to include the following; <ul style="list-style-type: none"> a. The objectives of monitoring, b. The actual issues of concern, the monitoring required to detect trends and ensure adverse effects remain | Proposed condition 34 already proposed this to be developed within 3 months of granting consents and implemented within 12 months of granting. We can instead aim to develop this plan soon and re-draft monitoring conditions to reflect these details before the Hearing. We intend collaborating with Shaw and Shane to develop this plan. | This answer satisfies HBRC's information requirement – however please see comment on page 4 regarding this matter |

| | | | |
|---|--|--|---|
| | <p>within acceptable ranges (parameters, sites, times and sampling methods),</p> <p>c. Confirm how in-river monitoring will be integrated with discharge monitoring, include how discharge volumes and loads will be determined,</p> <p>d. Confirm how the results will be used to inform and adapt the management of the wastewater network and treatment plant over the duration of the consent.</p> <p>7b) Alternatively provide a consent condition to give certainty that this monitoring plan will be provided in a timely manner.</p> | | |
| <p>8) Staging (Shane Kelly – page 7 of memo)</p> | <p>8) Please provide confirmation as to the rationale for the proposed changes and selection of discharge criteria, including an assessment of environmental implications (particularly for human health), this is in relation to the relaxation of the discharging at night requirement.</p> | <p>The BPO and Conceptual Design reports provided the rationale for these changes. Human health effects are driven by pathogens. Once filtration and UV have been installed the treated wastewater discharge will be cleaner than the river for a large number of parameters. It can therefore be discharged at any time without causing human health concerns. Despite this, under lower flows we have chosen to maintain discharges only during out-going river flows (which require out-going tides when river flows are below 3 x median). Discharging during daytime as well as night allows slower discharge speeds which will more readily remain within the outfall pipe's capacity and will be a smaller proportion of the river flow, thus having potential for greater dilution upon full mixing with the river. The adopted discharge regime also avoids the need to upgrade discharge pipe capacity and reduces surcharging of the treatment ponds.</p> | <p>This answer satisfies HBRC's information requirement</p> |
| <p>9) Consent conditions/Duration (Tania Diack 9a) to 9d))</p> | <p>9a) Given the Wairoa Wastewater Stakeholder Group (WWSG) was formed in late 2016 with terms of reference established in early 2017, consent conditions 19 and 20 do not seem necessary or is WDC proposing another stakeholder group be created? Can you</p> | <p>The intention is the formation of a new stakeholder group with a focus on reviewing Council's progress with implementing the proposed changes and to assist Council to understand the community's preferences for direction and next steps over rolling 5year periods.</p> <p>The WWSG has been discontinued because it has fulfilled its roles of providing the community's values and aspirations and guiding</p> | <p>This answer does not satisfy Council's requirements and this information is still sought, see comment page 4 of the section 92 letter</p> |

| | | | |
|---|--|---|--|
| (Nick Dempsey 9d to 9o) – pages 11 and 12 of memo) | please confirm the status of the WWSG plus submit a copy of all meeting minutes held for the WWSG and terms of reference. | WDC's selection of the BPO for consenting. Why do you need all WWSG meeting minutes and terms of reference? The consultation summary and Way Forward report provide these. | |
| | 9b) Please amend the proposed consent conditions to include conditions that clearly state the role the WWSG will hold during the term of this consent. | Its role is described above and provided for in conditions. We feel these clearly set out the role of the group over the term of consent. | This answer satisfies HBRC's information requirement. |
| | 9c) Council has concerns regarding the 35 year duration sought for this application, particularly as after the 10th year stages 3 and 4 of the BPO are considered to be aspirational only with no certainty given that additional storage and irrigation will actually occur. Can you please advise what certainties WDC can give in regards to additional storage, irrigation areas, reduced incidences of emergency overflows and river discharge volumes, as it is not clear in the application or consent conditions that a 35 year duration can be justified. | <p>Firstly, WDC are confident that the reticulation programme will significantly reduce the frequencies and volumes of pump station overflows and assist with reducing storage requirements and avoiding/minimising river discharges. The daily flows are about twice the flows recorded in the 1990's and early 2000's, so reticulation improvements should eventually be able to revert flows to those historic levels.</p> <p>In terms of irrigation, WDC can't be certain of the extent of irrigation at this early stage. The implementation relies on farmers agreeing to irrigate wastewater and being within an economically affordable distance for reticulation from the WWTP to their farm, and their farm soils and topography being suitable. This uncertainty should not detract from the willingness or intent to work towards it over time, however, and the condition framework clearly provides for this direction of travel.</p> <p>Regardless of the extent and rate of adoption of both irrigation and storage, the effects associated with the river discharge regime, including river flow discharge rate and filtration and UV disinfection, are considered to be less than minor. Any adoption of land application would only serve to enhance and delivery on the community aspiration to avoid river discharges.</p> | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 4 of the section 92 letter. |
| | 9d) - Please provide further treatment options/mitigation measures if the discharge into the Wairoa River is to continue at the stage 1 level proposed of the BPO. | Putting cultural values aside, no further treatment or mitigation options in our view would be necessary, as the discharge will have negligible effects (as is currently the case) on the environment upon achievement of Stage 1. The condition framework would however provide for further consideration of options with the WWSG under Conditions 21 and 22, with the System Improvement Plan framework occurring thereafter. | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 4 of the section 92 letter |
| | 9e) Please confirm whether there has been any sensitivity testing of the proposed 60m ³ /s median flow in the Wairoa River. If the actual median flows of the river change over time, what will impact will this have on either effects, or ability to achieve conditions. | No, but it is clear that the river flows are far in excess of the discharge flows. We do not expect changes in river median flows to have any significant impacts on scale of effects or ability to achieve conditions. | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 4 of the section 92 letter |

| | | | |
|--|---|---|---|
| | 9f) Please consider rewording of Condition 8 to reflect a median (i.e. 6 of 12 samples) and higher percentile parameter that are aligned with the current treatment plant performance data and realistic performance of the upgraded plant (and network). | We need some time to work these out, perhaps in collaboration with Nick. We suggest these can be done as we progress with the application and do not need to be sorted/agreed at this time. | This answer satisfies HBRC's information requirement – and agree that collaboration with Nick Dempsey can occur at a later stage to address this issue |
| | 9g) Please confirm why soluble carbonaceous five-day Biochemical Oxygen Demand (ScBOD5) is proposed for the consent measurement? Has there been any performance data for the existing plant been collected to date for this parameter? | CBOD5 has been monitored, and we need to check if it's only the soluble portion. It has shown a range of 5.9-190 g/m3 with a median of 23 g/m3. | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 5 of the section 92 letter |
| | 9h) Please confirm why BOD is being proposed as the oxygen demand parameter, as opposed to COD in the previous consent? | COD seems unusual for municipal wastewater that has no industrial inputs, so we changed it to cBOD to be similar to/consistent with other consents for similar discharges. | This answer satisfies HBRC's information requirement |
| | 9i) Please confirm why such lenient percentiles (e.g. for scBOD5, 4/12 = 220mg/L 33% of the time, and 10/12 = 224mg/L 83% of the time) are being proposed. However, "current" treated wastewater median is ~23mg/L for cBOD. Current consent is for COD <220mg/L. Note COD will always be significantly higher than ScBOD5. | At the last minute scBOD5 was stated instead of the current COD but the values were unchanged from the existing COD limits, partly because we expected these to be negotiated during consent processing anyway. We are happy to adjust the proposed limits to reflect the actual historic cBOD5 concentrations, which are about 1/10th of the COD concentrations. A greater difference will also be introduced for the two limits. We suggest that tweaking of these limits can be done as we progress with the application and do not need to be sorted/agreed at this time. | This answer satisfies HBRC's information requirement – and agree that collaboration with Nick Dempsey can occur at a later stage to address this issue |
| | 9j) Please explain why such narrow bands are to be met between the 33% and 83% trigger values. | All values were simply rolled over from the existing consent limits and changed the criteria to reflect the 8/12 and 10/12 limits which have been applied to more recent consent conditions elsewhere. We suggest that tweaking of these limits can be done as we progress with the application and do not need to be sorted/agreed at this time. | This answer satisfies HBRC's information requirement – and agree that collaboration with Nick Dempsey can occur at a later stage to address this issue |
| | 9k) Please provide treated wastewater consent parameters for pre and post upgrade to the network and treatment plant. | We would also like to understand why such parameters would be needed, as we see no environmental effects rationale for imposing future more stringent limits when the current effects are no more than minor. Again, we suggest that working through this issue can be done as we progress with the application and do not need to be sorted/agreed at this time. | This answer satisfies HBRC's information requirement – covered in question 4c) |

| | | | |
|---|--|--|---|
| | 9l) Provide proposed consent conditions for E Coli. | We need some time to work out appropriate limits pre and post UV. | This answer satisfies HBRC's information requirement – and agree that collaboration with Nick Dempsey can occur at a later stage to address this issue |
| | 9m) Conditions 21 and 22. Confirm who the System Review Data Reports are intended to be issued to at 5, 10, 20, and 30 years. | The work and processes involved are intended to assist the WWSG and ultimately WDC to make decisions around the options to achieve the outcomes stated in the conditions. Once the option or approach has been determined, this will be presented to HBRC under the System Improvement Plan framework. | This answer satisfies HBRC's information requirement |
| | 9n) Conditions 25 & 26. Confirm whether measurement of influent wastewater to the treatment plant is possible, as this will be the key gauge of success of the I&I programmes (Condition 15, Network Management Plan). | Yes, this is routinely measured already (flow at Fitzroy St pump station and quality at WWTP inlet). Each pump station's flows are continuously monitored and can readily be used to gauge the success of the I & I programmes. Some reductions have already been observed in terms of daily total flows and frequency of pump station overflows. | This answer satisfies HBRC's information requirement |
| | 9o) Condition 42. Is the intention that these reports be issued annually or biennially | Every 2 years. | This answer satisfies HBRC's information requirement |
| 10) Land Discharge (Tania Diack) | 10) The cultural values outlined in the CIA should underpin the proposed consent conditions of this proposal. Removing the discharge from the Wairoa River is paramount (to provide for the cultural values set out in the CIA) and the BPO sets out stages where this can be gradually improved overtime. Stages 3 and 4 of the BPO have been described as aspirational, which is of concern to Council. This however is not mirrored in the CIA which states "...by year 30 <i>The Package will have delivered an achievable, positive result for the river's cultural values and health in a manner which has been well consulted upon and which is realistically achievable, acceptable and, with good planning, affordable for the Wairoa Community</i> ". Council also have concerns regarding the difficulty in finding and securing appropriate land to irrigate on, particularly as this is wholly reliant on a | <p>When drafting the CIA Nigel acknowledged and understood the need for time to implement the stages proposed. The installation of filtration and UV is a significant step towards drinking water quality for the discharge while avoiding a very expensive process that will eventually become redundant. The CIA provides a cultural assessment of the discharge when each stage is achieved, regardless of whether it is achieved within the aspirational timeframe or at a later stage. The conclusion that there are cultural concerns until full implementation has occurred will provide WDC with a strong driver to continue implementing irrigation over larger land areas, and this will be no doubt reiterated by the WWSG.</p> <p>With strong community support and successful demonstration schemes such as the Mucalo farm, WDC hope to gain much wider buy-in from the rural community for expanding the irrigation, and perhaps this will occur faster than anticipated if all goes well. Requesting notification will provide an opportunity for greater understanding around how the proposal provides for cultural values, and we would look to digest and consider any matters raised in submissions, which may result in changes or specific actions.</p> | This answer does not satisfy Council's requirements and this information is still sought, see comment on page 5 of the section 92 letter |

| | | | |
|--|---|--|--|
| | <p>3rd party (long term) participation. Therefore, to reflect the cultural values identified in the CIA, the existing resource consent (previously known as WP180173 – applicant P I and J R Mucalo) could be amended to reflect the proposed BPO (which is likely to be publically notified) or alternatively could be included in this application with proposed consent conditions amended to suit. Alternatively, please provide a pathway/amended consent conditions so give Council certainty that land application options will be explored and implemented.</p> <p>We note the effects on cultural values, particularly tangata whenua, are effects that we need to consider as the discharge of treated wastewater into the Wairoa are likely to remain. Nigel How confirmed in the CIA “The effects of the current discharge regime on the river’s cultural values are at odds with tangata wheuna worldviews and is culturally offensive”, unless the wastewater is treated to a 100% drinkable quality then this view would apply even with the proposed filtration and UV treatment proposed in stage 1.</p> | | |
| <p>11) Stormwater (Tania Diack)</p> | <p>11) A search of our records indicates that there is no resource consent to discharge stormwater from the municipal system in to the Wairoa River. There is confirmation in the application that very little is known about the status of the current stormwater system (LEI2015A111 – section 7 Stormwater Management Issues), however it is clear that wastewater is getting into the stormwater system and possibly contaminants from other land uses within the catchments. Therefore, resource consent would be required for those stormwater discharges that do not meet</p> | <p>Wastewater is not entering stormwater; stormwater is entering the wastewater system. The only known exception is where the treated wastewater outfall pipe is surcharging and then overflowing via the emergency pressure relief weir into the last few metres of stormwater drain between Kopu Road and the coastline. Once the main discharge structure is modified and I & I issues are reduced this will become a much less common event.</p> <p>WDC and HBRC’s consent compliance staff have discussed consenting needs for Wairoa’s stormwater for several years now and WDC have been gathering information to support a future consent application. Grey Wilson of Good Earth Matters has had preliminary discussions with HBRC regarding preparation of a WDC global stormwater consent application.</p> | <p>This answer satisfies HBRC’s information requirement – HBRC staff have been advised of the application that is in the process of being prepared, in conjunction with the investigation work being undertaken by WDC which is identifying and remediating illegal stormwater connections into the sewer network</p> |

| | | | |
|--|--|--|---|
| | <p>Rule 163 as per the Regional Coastal Environmental Plan (RCEP) and Rule 42 of the Regional Resource Management Plan (RRMP), the relevant rule is dependent on the location of the discharge pipe into the Wairoa River. If resource consent approval is needed then the current investigations that WDC are currently undertaken will be integral to that application. The HBRC Consents section suggests that WDC meets with HBRC staff for a pre-application meeting to discuss the appropriate steps in ensuring that, if an application is needed that it is applied for in due course. This matter will be passed onto the Incidents and Enforcement section if necessary.</p> | <p>In any case, we do not believe that the treated wastewater consent application should be delayed or related to the stormwater consents because the reticulation and discharges are not directly linked.</p> <p>12</p> | |
| <p>12) WDC resource consent approval (Tania Diack – Reference Page 36 of Strategy, 2018:C9)</p> | <p>12) Please confirm the likelihood Rule 26.5.6 for the Operative Wairoa District Plan would trigger the need for public notification given it is a Discretionary Activity? Can you please provide clarification regarding this matter from WDC Planning staff? It may be in the best interests for WDC to have a joint hearing (if needed) to avoid incurring additional costs associated with having two separate hearings.</p> | <p>We would not expect public notification from a land use perspective, particularly given effects on the receiving water body would have been addressed under this process. We are in the process of discussing this with WDC planning staff.</p> | <p>This answer satisfies HBRC’s information requirement – this question was more of a “heads up” to WDC to make provision for perhaps a joint hearing if needed.</p> |