

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of application **APP-1993001253.02** by Tararua District Council to Horizons Regional Council for resource consents associated with the operation of the Pahiatua Wastewater Treatment Plant, including earthworks, a discharge of treated wastewater into Town Creek (initially), then to the Mangatainoka River, a discharge to air (principally odour), and discharge to land via seepage, Julia Street, Pahiatua

REPORT TO THE COMMISSIONERS

DR BRENT COWIE (CHAIR), MR REGINALD PROFFIT AND MR PETER CALLANDER

SECTION 42A REPORT OF FIONA MORTON - PLANNING

21 April 2017

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A. INTRODUCTION

Qualification and Experience

1. My name is Fiona Janet Morton.
2. I am contracted to the Manawatu-Wanganui Regional Council (Regional Council) in the position of Senior Consents Planner.
3. I hold an honours degree in Resource Management and Environmental Planning. I am a full member of the New Zealand Planning Institute. Following my graduation in 2000 and up until May 2006 I was firstly a Policy Analyst, Consents Planner and then a Senior Consents Planner at the Regional Council. During 2007 to 2012 I periodically assisted the Regional Council in a planning peer review role.
4. I have over 15 years resource management experience, predominantly in the natural resource field, and in particular relating to resource consenting matters.
5. I have read the Environment Court Practice Note 2014 as it relates to conduct of expert witnesses and I agree to comply with it and have complied with it in preparation of this evidence. Other than where I state that I am relying on the advice of another person, the matters covered in this report are within my area of expertise. I have not omitted to consider material facts known to me that might detract from the opinions I express.

Background

6. **APP-1993001253.02** was lodged on 22 December 2014 by Tararua District Council (the Applicant). This application was lodged to revise application **APP-1993001253.01** which was lodged on 3 December 2004. **APP-1993001253.01** was notified and three submissions were received. This application was not resolved, and was placed on hold pending the lodgement of a revised proposal (**APP-199301253.02**).
7. The first application, **APP-1993001253.01** was lodged more than six months prior to Consent 4369 expiring (30 Jun 2005). In accordance with s124(1)(d), and s124(3) the consent holder (Tararua District Council), can continue to operate under the existing consent (Consent 4369) until such time as a new consent is

granted and all appeals are determined; or a new consent is declined and all appeals are determined.

Relevant Information

8. This report is to be read in conjunction with the s42A reports prepared by Mr Tim Baker (Consultant Groundwater Scientist to the Regional Council), Ms Deborah Ryan (Consultant Air Quality Scientist to the Regional Council) and Mr Michael Patterson (Water Quality Scientist, Horizons Regional Council).
9. In preparing this report I have considered:
 - a. The Assessment of Environment Effects (AEE) which accompanied the application;
 - b. The further information provided in December 2015 received via email in response to the Regional Council s92 request.
 - c. Following the close of submissions, and the pre-hearing meetings, further information was requested on 13 November 2016. The Applicant's consultant agreed to provide this information in a letter dated 12 December 2016 (Commissioner Folder Tab 4). This further information was received on 12 April 2017. This information also included a consent application for the construction of a wetland (land use consent for earthworks and a discharge permit for land seepage). Where possible this report has included the 12 April 2017 s92 response, including the additional application.
10. I have considered all submissions received on the application and the relevant resource management matters which are required to be considered by a consenting authority in relation to this application.

Site Visit

11. I visited the site on 2 February 2015. Also in attendance was Ms Maree Clark (HRC – Water Quality Scientist), Ms Tabitha Manderson (Consultant for TDC), and Dr Olivier Ausseil (Consultant for TDC), and Mr Dave Watson (TDC).
12. I am familiar with the location, its surrounds and the characteristics of the current activity.

B. OUTLINE OF EVIDENCE

13. In my report I have provided the following:
 - a. A description of the activity;
 - b. An outline of the consenting background;
 - c. An outline of the public notification process;
 - d. A summary of the matters raised in submissions;
 - e. An assessment of the relevant section 104 matters including:
 - i. An assessment of the environmental effects associated with the ongoing effects of the activity,
 - ii. An assessment of the relevant National Environmental Standards, National Policy Statements, Regional Policy Statement and Regional Plans (namely the One Plan);
 - iii. An analysis of Part 2 of the Resource Management Act 1991 as it relates to the application.
14. This report provides an analysis of the relevant plans and policy documents, as well as an interpretation of those where required. It also includes discussion on the effects associated with the activity, and an assessment of the submissions received.
15. In accordance with section 42A (1A) and (1B) of the RMA, I have minimised the repetition of information included in the application and where I have considered it appropriate, adopted that information.

C. THE SITE AND SURROUNDING AREA

16. The existing environment is detailed in Section 1.2 of the Applicant's AEE (pg. 4). The waste water treatment plant (WWTP) is accessed from Julia Street, Pahiatua. The existing discharge point from the WWTP is to Town Creek, which is a tributary of the Mangatainoka River. The 12 April 2017 s92 response now includes a constructed lined wetland as the final effluent polishing step. It is proposed that the treated water will be released from the constructed wetland into an inactive dry side channel of the Mangatainoka River. It is expected that the discharge will seep through the gravel bank towards the wetted channel of the river along the length of this dry channel. This is very similar to what is currently happening at the bottom of Town Creek.

17. Following the construction of the wetland the receiving environment and the discharge itself will be to the Mangatainoka River.
18. The proposed discharge of treated wastewater from the Pahiatua WWTP to the Mangatainoka River falls within the Mangatainoka River (Mana_8c) sub-zone. This is a water management sub-zone of the Mangatainoka (Mana_8) water management zone. Mr Patterson's report [section D, commencing at para. 14] identifies the values associated with this water management zone.

D. THE ACTIVITY

19. On 20 December 2014, the applicant sought consent from the Regional Council for the following activities:
 - a. Discharge permit to discharge treated wastewater initially into Town Creek (which is a tributary of the Mangatainoka River) and then consequentially into Mangatainoka River;
 - b. Discharge to air (principally odour); and
 - c. On 11 December 2015, as part of the response to the s92 request, a discharge permit to discharge treated wastewater to land was made. This application is to deal with any potential seepage from the existing treatment ponds.
20. A term of 15 years was sought for all permits in the application.
21. Section 1.7 on page 9 of the application details the existing infrastructure and proposed upgrades programmed to occur.

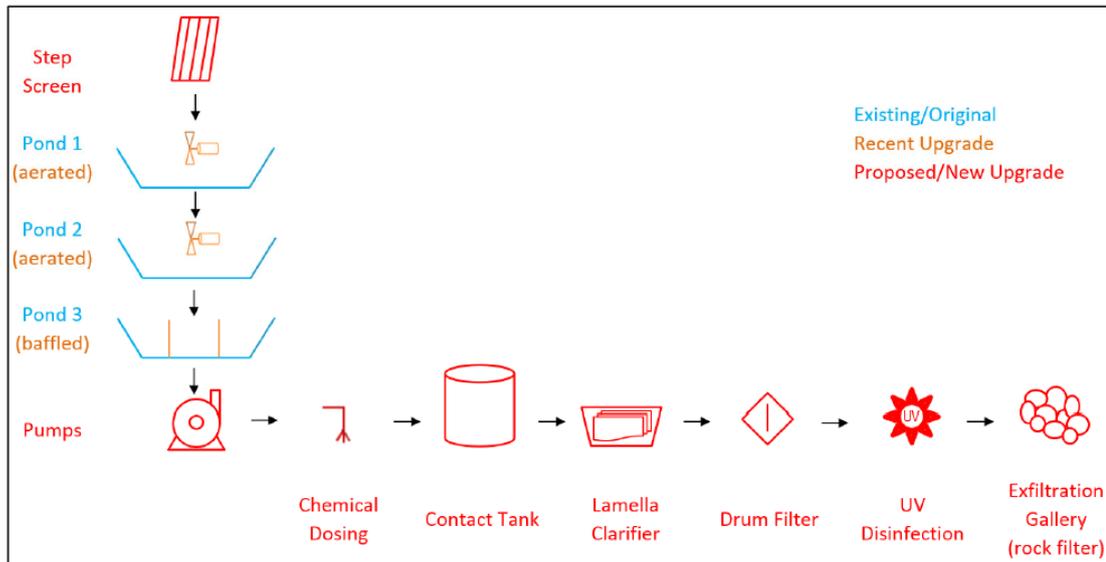


Figure 1 WWTP PFD, including existing and proposed upgrades

22. I expect that the s41B reports will provide further details on the above process as it is no longer proposed to use the exfiltration gallery, and it is now proposed to incorporate a wetland (the application received on the 12 April 2017).
23. A final discharge point has been indicated on Figure 1 as provided in the 12 April 2017 further information response. Mr Patterson discusses the monitoring sites in his report. [Section I, para. 89].
24. There is no timeline of when the upgrades are proposed to be completed and operational. The earthworks application for the wetland construction indicates that the wetland will be completed by March 2018. It is unclear when the wetland will be operational and form part of the treatment system. I am also unclear as to when the discharge will be removed from Town Creek. It would be helpful if a proposed timeline of when the upgrades at the Plant are to occur are included in s41B reports.

E. SUPPLEMENTARY APPLICATION

25. As noted previously an application was received on 12 April 2017, seeking a land use consent for earthworks in order to construct a wetland. This also included an application for a discharge permit to allow for treated wastewater to be discharged to land where it may enter water from the unlined portion of the wetland.

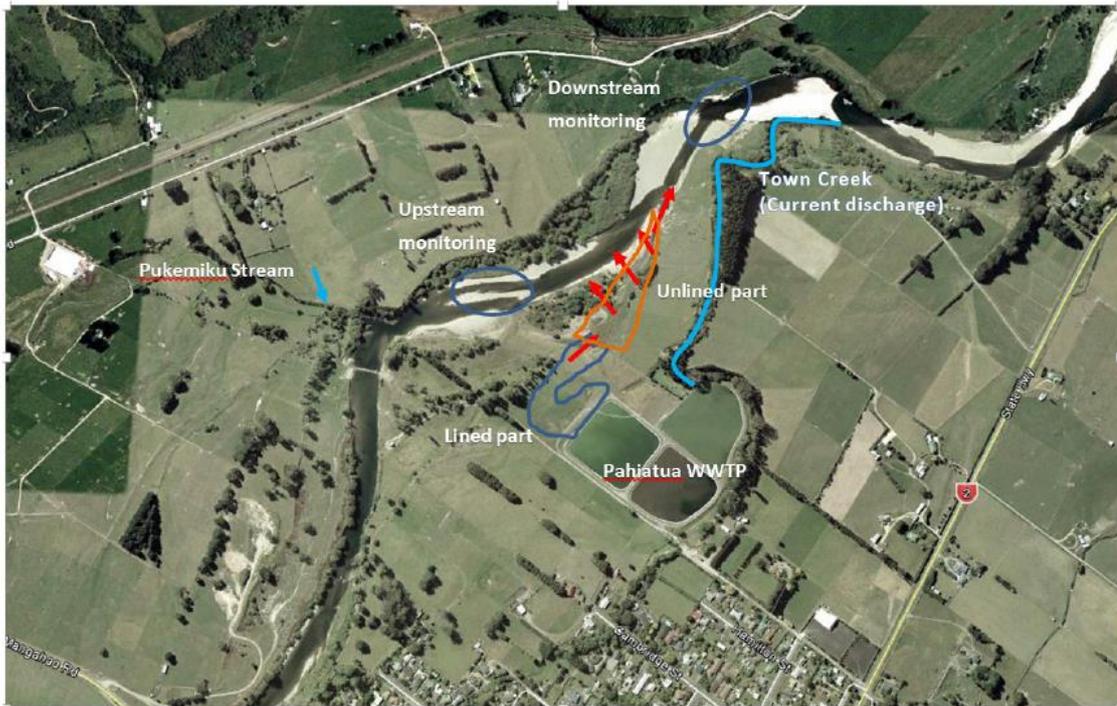


Figure 1: Proposed wetland location

26. The Regional Council has chosen to delegate authority to the Hearing Commissioner's pursuant to s34 of the Act to decide on this supplementary application in conjunction with the primary application.
27. The application for earthworks is a controlled activity and could be processed independently of this application however in the interests of transparency and continuity in respect of decision making, the outcome of the supplementary application is to be determined at the same time as the notified application.
28. By taking this approach, it will allow the parties involved in the process to comment, in particular, on whether or not Policy 5-11 is addressed.
29. A term of 5 years has been sought for the earthworks associated with the wetland construction. A term of 15 years (the same as the primary application), has been sought for the wetland seepage application

F. NOTIFICATION

30. The application for the three consents were publically notified in the Manawatu Standard (9 April 2016) and the Bush Telegraph (11 April 2016). A copy of the public notice is included at Tab 3 of the Commissioner folder. Specifically this notice stated that three discharge permits were sought (water, land, air).

31. The discharge to water permit is seeking to authorise 3,460m³/day (Peak Wet Weather Flow) of treated wastewater from the upgraded Pahiatua Wastewater Treatment Plant to Town Creek initially and then into the Mangatainoka River.
32. The discharge to land permit is seeking to authorise the discharge the treated wastewater from the operation of the upgraded Pahiatua Wastewater Treatment Plant into land via ground seepage from the oxidation ponds.
33. The discharge to air permit is seeking to authorise the discharge of contaminants to air (principally odour) generated from the upgraded Pahiatua Wastewater Treatment Plant.

G. SUBMISSIONS

34. A total of eleven submissions were received on the primary application. A list of all submitters is included in the Commissioner's folder (Tab five). This list includes whether or not the submitter requested to be heard at the hearing. The original submissions as well as a summary of submissions have been provided to the Commissioner's (Tab six). The table below briefly notes the issues raised in the submissions, and where possible the relief that has been requested to address that issue.

Table 1: Summary of submissions

No.	Issues / Concerns raised through submissions	Relief requested	Submission Number(s)
1	Duration	Submissions requested a term ranging from 3-15 years, with reviews	3, 5, 6, 7, 8, 9, 10, 11
2	Effects of recreational use	Assess degree of human use downstream	1
3	Cultural impact	Request for Kahungunu ki Tamaki nui-a-rua Trust to undertake and be resourced for 2 yearly cultural health monitoring. CIA to be prepared by Te Roopu Taiao o Ngati Whakatere	2, 5, 8
4	Failure to consider cumulative effects		2, 4, 7
5	Mauri	Request for Kahungunu ki Tamaki nui-a-rua Trust to undertake 2 yearly cultural health monitoring CIA to be prepared by Te Roopu Taiao o Ngati Whakatere	2, 5, 8
6	Failure to monitor or categorise influent/effluent flows	Monitor influent and effluent flows	2, 7, 9
7	Impacts on Fish		2, 4

No.	Issues / Concerns raised through submissions	Relief requested	Submission Number(s)
8	Downstream instream effects	Address nutrient levels, monitor indicator species including macroinvertebrates, use adaptive management. Monitor groundwater	4,
9	Inadequate consideration of alternative disposal options	Investigate alternative treatment and disposal options (land)	4, 5, 8, 9, 10
10	Outdated applications		5
11	No adherence to Policy 5-11		6
12	Excessive peak wet weather flows		9
13	Permeability of clay liner is unknown		2
14	Monitoring and reporting	Comprehensive monitoring programme required	2, 4, 5, 7, 8, 9
15	Air dispersion monitoring	TDC to carry out dispersion monitoring for the air discharge consent.	2
16	Groundwater monitoring	Monitoring of the groundwater below and adjacent to the oxidation pond	2

H. PRE-HEARING

35. Three pre-hearings were held in respect of the TDC WWTP discharges from Eketahuna and Pahiatua. The first was held on 15 June 2016 in the Old Council Chambers, Pahiatua. The second was held on 30 August 2016 at the Masters Conference Centre, Masterton Road, Pahiatua, Pahiatua. The third pre-hearing was held on 19 October 2016, again at the Masters Conference Centre. This pre-hearing focussed predominantly on the Pahiatua WWTP discharge.
36. At the outset of the prehearing it was agreed that between the participants who attended, that the pre-hearing meetings proceeded on a 'without prejudice' basis. The meeting record was confidential to the people who were present at the pre-hearing meeting and, by agreement between them, is not to be circulated or shared with persons who were not in attendance at the pre-hearing meeting.
37. The pre-hearing facilitator will prepare a report pursuant to s99(5). This will be provided to the Commissioners (Tab seven) in accordance with the timeframes specified in the Act once it is received.

I. ASSESSMENT – SECTION 104

38. The provisions of Section 104 of the Resource Management Act 1991 (the Act) must be considered by the Hearing Commissioners in making a decision on the resource consent application. Section 3, page 29 of the application sets out some of the relevant provisions that require assessment. The matters contained in Section 104 that in my opinion are of relevance to the application include:

- 104(1)a. **Actual and potential environmental effects.** An assessment of the environmental effects is provided by the Applicant and in the section 42A report prepared by Ms Ryan, Messrs Patterson and Baker. In the following paragraphs I consider the findings of both the AEE and the s42A technical reports in concluding my overall assessment of the actual and potential ongoing effects of the activities. This assessment is given in Section H of my report.
- b.(i) **National Environmental Standards.** The National Environmental Standards for Sources of Human Drinking Water and the National Environmental Standards for Assessing and Managing

Contaminants in Soil to Protect Human Health have both been considered.

- b.(ii) **Other regulations.** There are no other regulations that I am aware of which would be considered to be relevant to authorising the ongoing effects associated with this activity.
- b.(iii) **Relevant National Policy Statements.** Section L of my report comments on relevant provisions of the National Policy Statement for Freshwater Management 2014.
- b.(iv) **New Zealand Coastal Policy Statement.** Not relevant to this application.
- b.(v) **Relevant Regional Policy Statement.** The Applicant's assessment of the relevant Objectives and Policies of the Regional One Plan Policy Statement is given in Section 3.2, pages 37-40 of the AEE. Section M of my report expands on these provisions.
- b.(vi) **Relevant Regional Plan.** The Applicant's assessment of the relevant Objectives and Policies of the Regional One Plan is given in Section 3.3, pages 40-43. Section N of this report expands on the Applicants' assessment.
- (c) **Other Matters the Consent Authority Considers Relevant.** The Manawatu Leaders Accord

J. S104(1)(A) ACTUAL AND POTENTIAL EFFECTS

- 39. Part 1, Section 3 of the Act encompasses a broad definition of what constitutes environmental effects. The Act requires the consideration of both **actual effects** and **possible future effects**. Potential cumulative effects on the environment must be taken into account. In addition, consideration must be given to any potential effect of high probability and any potential effect of low probability which has a high potential impact.
- 40. The following are considered to be the actual and potential effects that require consideration:

- a. Effects on surface water quality from the discharge of treated wastewater to the Mangatainoka River, including cumulative effects;
- b. Effects on groundwater from potential WWTP pond seepage;
- c. Effects on ground and surface water from potential seepage from the unlined wetland;
- d. Odour effects;
- e. Effects on recreation and amenity values;
- f. Effects on cultural values; and
- g. Sediment and erosion effects (wetland construction).

Actual and Potential Adverse Effects

Effects on Surface Water Quality

- 41. The discharge of treated wastewater has the potential to cause effects to surface water quality. Section 2 of the application provides a summary of applicant's assessment of the current effects on freshwater quality and ecology. Appendix I of the application includes a more comprehensive assessment of environmental effects. Mr Patterson's s42A report further discusses these effects [Section H, para. 54]. Mr Patterson's report considers the current effluent quality and current effects on the receiving environment.
- 42. The existing resource consent (4369) that the applicant is operating under requires regular monitoring to be undertaken to look at the effects of the discharge to the Mangatainoka River. This monitoring includes:
 - a. Monthly water quality monitoring of the discharge itself and also in the Mangatainoka upstream and downstream of the WWTP discharge.
- 43. There is no requirement for monitoring of invertebrates or periphyton upstream and downstream of the Pahiatua discharge on the existing resource consent (4369). Instead this monitoring is undertaken by Horizons Regional Council and funded through s36 charges to Tararua District Council.
- 44. Unfortunately in mid 2015 it was discovered that monitoring of the Pahiatua discharge, carried out by Horizons Regional Council staff was being undertaken in the wrong location. This occurred from December 2012 until June 2015. This

has resulted in significant confusion of the data available. Following that, upgrades at the WWTP, and fine tuning of upgrades has also occurred (during 2016). Mr Patterson considers that this has made it very difficult to get an idea of exactly what results and any resulting trends the plant was delivering from the period December 2012 until now.

45. It is my understanding that some upgrades have been undertaken which will result in improvements of the effluent quality, but that at this point in time, while plant refinement is being undertaken, not all these upgrades have been fully commissioned to operate all the time. Mr Patterson's report identifies there is limited monitoring data of the discharge itself or identification of the expected quality of the wastewater following the upgrades to assess possible potential future effects on water quality instream.
46. The 12 April 2017 s92 response does not provide much in the way of further clarity in respect of the expected effluent quality from the proposed upgrades.
47. In Mr Patterson's view this has made assessing any future effects from the proposal difficult. Therefore his assessment is largely based on the current effects of the discharge to the Mangatainoka River.
48. Mr Patterson's report commences this assessment at paragraph 54. His report has identified that assessment of the Mangatainoka at downstream of the Pahiatua STP discharge against the One Plan shows that the current discharge does not meet the One Plan targets for *Chlorophyll a*, SIN, DRP, *E. coli* and filamentous cover. While it should be noted that these targets (with the exception of *Chlorophyll a*) are also exceeded upstream, the discharge exacerbates the frequency of exceedances of DRP, *Chlorophyll a* biomass and filamentous algae cover. It is my understanding that Mr Patterson considers that the increased frequency of these exceedances with One Plan targets at the downstream Mangatainoka site can be attributed solely to the discharge from the WWTP.

Macroinvertebrate monitoring

49. The previous consent did not require macroinvertebrate monitoring to be undertaken. Instead this monitoring is undertaken by Horizons Regional Council and funded through s36 charges to Tararua District Council. Using the MCI monitoring data it can be seen that the Mangatainoka at Putara (reference) site

falls into the category of excellent (clean water) water quality. However, both the Pahiatua Town Bridge and State Highway 2 sites fluctuate between the Good (possible mild pollution), Fair (probable moderate pollution) and Poor (probable severe pollution) categories.

50. In Mr Patterson's opinion a change to the QMCI greater than 20% equates to a significant adverse effect as it signifies a significant change in ecosystem processes and indigenous species. This approach has been accepted in previous discharge permits¹ as being appropriate. The approach taken in the Feilding WWTP was accepted by the Environment Court. In the case of this discharge while there has been a change in QMCI, this does not equate to a change greater than 20%.

Periphyton

51. Results of the *chlorophyll a* data collected show that at the reference site (Mangatainoka at Putara) upstream of the discharge, the periphyton growth falls within the One Plan target on all occasions. The Mangatainoka upstream of the discharge complies with the 120 mg/l target 97.9% of the time (exceeds 2 out of 94 times), which is greater than the minimum 95% compliance required by the One Plan, while the downstream of the discharge complies with the Chlorophyll a target of 120 mg/m³ 94.2% of the time (exceeds 5 out of 86 times). Therefore downstream of the discharge does not fall within the 95% compliance required by the One Plan.
52. In summary, Mr Patterson's report notes that the monitoring associated with the current discharge shows that there is an increase in periphyton downstream of the discharge relative to upstream, though no clear impacts on the macroinvertebrate community. There are known dissolved oxygen issues associated with Mangatainoka at Pahiatua Town Bridge site, and the periphyton biomass and cover are similar between this site and the downstream of the Pahiatua discharge site, suggesting DO conditions may be exacerbated downstream of the discharge relative to upstream.

¹ Fonterra Pahiatua Plant Expansion, Hunterville WWTP, Feilding WWTP

53. In Mr Patterson's view it is possible that the current discharge is maintaining elevated nutrient enrichment, resulting in degradation to the life supporting capacity in this reach of the Mangatainoka River.
54. In terms of improvements that will be seen as a result of the upgrades, some preliminary results are provided, though with acknowledged limitations. No clear effluent quality standards have been provided in particular for the discharge into the Mangatainoka River. Therefore at this point it is unclear whether post upgrade completion and commissioning, whether the life supporting capacity of the River will be protected.

Pond seepage/Groundwater interface

55. Mr Baker notes that no conceptualisation or description of the local groundwater environment was provided in the AEE or s92 response. Therefore there is no site specific data in respect to groundwater depth, flow direction or quality.
56. In the absence of site specific data, he has reviewed geological maps and topographical maps, as well as undertaken a site visit. His interpretation of the hydrogeological setting is as follows:
- a. Around Pahiatua, the Mangatainoka River has formed a broad flat valley floor which is underlain by a thin veneer (typically 10 m thick) of recent floodplain materials;
 - b. Groundwater is likely to be present in the recent floodplain materials as an unconfined aquifer beneath the site;
 - c. According to the 1:250,000 QMAP² the unconfined aquifer comprises alluvial deposits consisting of poorly to moderately well sorted gravels with sands and silts;
 - d. Groundwater flow direction is likely to reflect topography and flow towards the northwest (i.e. from the WWTP to the Mangatainoka River);

² 1:250 000 Geological Map of New Zealand (QMAP) produced by GNS

- e. Given the riverside location, elevation and topography groundwater would be expected to be relatively shallow (i.e. likely no deeper than the elevation of the riverbed); and
 - f. Groundwater quality beneath the site is unknown.
57. In regards to specific effects on other groundwater users, Mr Baker notes there are 11 wells within a 1 km radius. They are as follows:
- a. Three (ID 348133, ID 348019 and ID 348109) of the 11 wells are located between 250 and 700 m up-gradient (east) of the WWTP.
 - b. Five (ID 348124, ID 348031, ID 348125, ID 348126, ID 348104) of the 11 wells are located between 590 and 900 m cross-gradient (southwest and northeast) of the WWTP.
 - c. Three of the 11 wells are located between 350 and 560 m from the WWTP across the Mangatainoka River.
58. He does not consider any of the 11 wells to be down-gradient of the WWTP and therefore concludes that other groundwater users are unlikely to be at risk from the WWTP groundwater discharge from the ponds.
59. Mr Baker has assumed that the groundwater beneath the WWTP does discharge indirectly to the river. He is of the view that this diffuse discharge is likely to be indirectly measured as part of the river water monitoring programme.
60. Importantly he notes that leakage from the ponds have not had the full treatment that the pond systems provides, therefore it has the potential to be of a poorer quality than the final treated discharge.
61. He considers that the most likely effects from this discharge would be on instream ecological values of the Mangatainoka River. These effects are discussed more completely in Mr Patterson's s42A report.
62. Mr Baker notes that the Applicant intends to design and construct to a partially clay-lined wetland at the WWTP to provide additional treatment to the wastewater before being discharged to the environment.

63. He considers that a properly designed and constructed wetland (i.e. 100% clay-lined) would have minimal net impact on groundwater quality. However, if the wetland is only partially clay-lined then this could potentially result in an increase in leakage to groundwater (albeit well treated) compared with existing levels. He further notes that the design and construction of the wetland will not address potential leakage issues from the existing oxidation ponds
64. Mr Baker's view is installation of monitoring wells to measure impacts from the existing ponds and proposed wetland is warranted.
65. He is in general agreement with the location of the groundwater wells proposed by the applicant, however he suggests a minor change to the location of the down-gradient well (i.e. located approximately 70 m closer to the western boundary of the wetland as shown in attachment C of his evidence). He also recommends that given the limited information in relation to the direction of groundwater flow an additional down-gradient groundwater monitoring should be installed well northwest of the WWTP. The location of this proposed groundwater monitoring well is shown in Attachment C of his evidence and on **Plan ATH-199501433.02 A** included in Appendix 1.
66. Mr Baker concludes that it is feasible that there are effects on the quality of the Mangatainoka River as a result of existing leakage from the base of the ponds entering groundwater and then flowing into the river. The applicant has not attempted to quantify this effect, largely due to the absence of any site specific groundwater data and WWTP inflow and outflow data.
67. Mr Baker suggests that the applicant to calculate pond leakage on a daily basis, and report this information to the Regional Council on a quarterly basis. His view is that this could be achieved through the monitoring of inflows and outflows and the creation of basic water balance model. To achieve this installation and ongoing operation of flow meters on the influent and effluent lines would be required.
68. He also considers that one up-gradient and two down-gradient monitoring wells should be installed to monitor the impact of pond leakage on groundwater quality.
69. The recommendations from Mr Baker have been included in the attached set of conditions.

Odour

70. The report of Ms Ryan has considered the potential sources of odour discharge from the WWTP; the controls in place, the potential failure of controls, the odour complaint and compliance history and the mitigation and management required to ensure the potential for objectionable odour is low.
71. Her report notes that odorous compounds can discharge from all operations at the plant, either where untreated wastewater is exposed to air, including the inlet works (primary screen) and Pond 1. The inlet works are commonly one of the most significant odour sources, particularly for sites where the wastewater has travelled long distances, or the sewer system design is such that the waste has long dwell times within pipes and anaerobic conditions are allowed to form within the wastewater. Anaerobic biological activity results in pungent and offensive odorous compounds, particularly hydrogen sulphide and mercaptans, which have a high potential to create adverse effects from odour off-site.
72. In addition stored waste solids by nature are odorous with the potential for anaerobic conditions to occur.
73. Ms Ryan considers that the key aspects that require management and maintenance include:
- a. The primary screen and screenings storage area;
 - b. Maintaining the wastewater/effluent in an aerobic state throughout the ponds and the additional treatment stages;
 - c. Handling and storage of clarifier sludge; and
 - d. Pond desludging and sludge storage and handling activities.
74. Ms Ryan notes that at Pahiatua there is a relatively short travel distance in the sewer system (estimated at a maximum of 3 kilometres). Dwell times should therefore be relatively short. She noted that the storage of the inlet screenings is not particularly well sealed. Frequent removal and/or improved sealing of the screenings storage may be needed to avoid offensive odours beyond the boundary, particularly during warm weather. She considered that solids management should, be monitored to ensure it does not become an issue, and

approaches to control odour should be identified in the site operation and management plan (OMP).

75. Odour from well aerated oxidation ponds will be minimal, provided sufficient dissolved oxygen (DO) is maintained in the upper pond layer. Anaerobic biological activity will occur in the sludge and potentially the lower water level in the pond, but if operating within design loadings and correctly operated to maintain oxygen levels in the upper level, foul odours are generally not discharged from oxidation ponds. The application states that at least one aerator will be operated in each of Pond 1 and 2. No information on how aeration is managed to ensure sufficient DO was provided in the AEE. Ms Ryan considers that a programme of monitoring DO at representative location/s, sufficient to manage aeration be developed by TDC and incorporated into a site management plan that addresses air discharge aspects of the wastewater treatment operation.
76. The third main aspect with potential for offensive odour is pond desludging and sludge storage. As noted previously, anaerobic conditions can be present at lower levels within ponds and within sludge that can release sulphides and other compounds when disturbed. Pond desludging has resulted in odour complaints being received at Pahiatua however this aspect can be addressed within the site management plan.
77. I consider that for this aspect of the application at least, there is enough information in respect of actual and potential effects, and consequential management can adequately address any potential effects.
78. Ms Ryan's report has indicated some possible areas for consideration in respect of condition formulation. I have incorporated these into my suggested conditions for the discharge to air permit (Appendix 1).

Recreation and amenity values

79. The effects on recreation and amenity values are unknown. The AEE does not describe the degree of human interaction with the environment, and this has been noted as a point of concern in the submission from MidCentral Public Health Services (MCPHS). This submission has asked that the Medical Officer of Health is consulted regarding the options for minimising or eliminating direct human contact with wastewater.

80. Usually conditions are required to ensure appropriate signage is in the vicinity of the final discharge point and at the end of the mixing zone. In this instance I am uncertain of the recreational use of the area, and whether there are any local swimming spots which may be adversely impacted by the current or future discharge. I do note that the CVA (pg. 29) refers to a popular swimming hole close to the wastewater discharge point of the WWTP. I am unclear whether this swimming spot is upstream or downstream of the discharge point. The CVA also refers to the Cross Road cemetery being downstream of the discharge, on the banks of the River.
81. Therefore it would be helpful if the applicant could address this point in the s41B reports. If the recreational use of the area is unknown then it may be prudent that a condition is imposed in order for the applicant to undertake a recreational survey of this area of the River to get a better understanding of the actual river use for recreational purposes. If access to the River is readily achievable within the mixing zone³ then signage should definitely be required and or maintained.
82. MCPHS may have a further comment on such an approach as I expect would Wellington Fish and Game (F&G) and iwi.

Effects on cultural values

83. A cultural impact assessment (CIA) has been undertaken by Rangitane o Tamaki nui a Rua Inc as part of the application.
84. It is clear from the submissions received from the three iwi groups that there is a negative cultural impact and an adverse effect on the mauri of the awa. Specifically Kahungunu ki Tamaki nui-a-rua note that the application has not taken into account the cultural and spiritual relationships that their hapū have with the Mangatainoka River or the wider Manawatu catchment. This submission considers that the effects of the discharges on Mauri can only be accurately determined by the hapū of Kahungunu ki Tamaki nui-a-rua.

³ Noting that any future mixing zone will be different to what is within the existing consent.

85. The submission of Te Roopu Taiao o Ngāti Whakātere (TRToNW) opposes the duration requested and requests that a Cultural Impact Report should be commissioned by TDC and completed by TRToNW.
86. The submission of Rangitāne o Tamaki nui a Rua Inc. (RTnaR) strongly objects to any activity that has the potential to cause blemish, pollution and devastation to Papatūānuku. This submission encourages continued work towards the goal of nil discharge to waterways. They consider that a term of 15 years is too long and a 10 year term with 5 yearly reviews would be more appropriate. They request that they are kept informed in respect to the quality and quantity being discharged into waterways.
87. I consider that there will be continuing adverse cultural effects as a result of the discharge. Currently I consider there to be a gap around the actual and potential effects associated with this discharge in regards to effects on mauri. The three submissions received do indicate that there is an adverse impact on mauri, the relationship with the river, and the ability to undertake Kaitiaki practices. It is anticipated that evidence presented by Kahungunu ki Tamaki nui-a-rua, TRToNW and RTnaR at the hearing will assist the Commissioners in assessing these effects.

Soil disturbance effects

88. The effects associated with the earthworks required for the construction of the wetland include:
- a. Location, nature, scale and timing of the activity;
 - b. erosion and sediment effects,
 - c. soil conservation and stability; and
 - d. potential adverse effects on watercourses.
89. The draft erosion and sediment control plan (ESCP) included with the supplementary application has been reviewed by Mr Greg Bevin – Regulatory Manager for the Regional Council.
90. He notes that the works are:

- To occur on land immediately adjacent to the existing WWTP;
- Anticipated to take approximately 2 months (1 February to 31 March 2018); and
- Will include a total area of 5,200m², with an approximate 1540m³ and 1660 m³, being used as fill and cut to waste, respectively.

91. He has assessed the site against the Regional Council's risk matrix. This matrix looks at various factors, including duration of works, location to waterways, soil type and slope angle, to determine the risk the proposed activity represents to the receiving environment, which in this case is the Mangatainoka River.

92. Mr Bevin considers that the site is low risk for the following reasons

- a. The work window is short-term (approximately 8 weeks);
- b. The area exposed⁴ is 5,200 m²
- c. The Universal Loss Equation (USLE) assessment undertaken by the applicant (Appendix A) indicates the sediment yield for the proposed works, with appropriate controls in place, will be approximately 0.03 tonnes during the course of the project.
- d. Slope is approximately 0.01% (based on information in the USLE); and
- e. The Mangatainoka River is more than 200 metres from the proposed works (assuming the existing channel as proposed by the applicant is used as the discharge point for the works)

93. The main controls proposed by the applicant are:

- a. The use of silt fences and clean water diversions;
- b. Using the construction area of the wetland as a detention area. De-watering of this area is proposed as and when required;
- c. Installation of a stabilised construction access point;

⁴ Confirmation is needed on this point as the USLE notes an area of 0.7ha;

- d. Stabilisation of pond batters; and
 - e. Limiting the exposed area to an area of no more than 0.2ha at any stage;
94. While Mr Bevin is satisfied that the proposed ESCP methods are appropriate for the site he has identified some matters which will need to be addressed by the applicant's s41B report, namely:
- a. Confirmation of the actual area of earthworks – the application states a total of 5200m², whilst the USLE is based on 7000m² (0.7ha);
 - b. Further information regarding on the de-watering process, namely
 - Specific de-watering procedures and methodology to be used. For example, how is de-watering to occur (methodology) what are the triggers for activation de-watering and identification of key conditions that need to be meet before de-watering occurs (e.g. clarity of water etc.);
 - Design rates and batch dosing procedures in the event flocculation is required;
 - Monitoring and contingency methods to be adopted (e.g. what will occur if the de-watering is causing erosion, dirty water is discharged from the site, dewatering cannot keep up with inputs)
 - c. The ESCP needs to demonstrate how the proposed silt fences will be installed in accordance with the guidelines;
 - d. The ESCP needs to confirm how the clean water diversions will be stabilised and how they will meet the guideline standard;
 - e. Information needs to be provided to confirm the diversion bunds meet the guideline standard;
 - f. Clarification as to what is meant by a trafficable diversion bund? Is this the same as the referred to roll over bund referred to in the plan for the ESCP; and

g. Section 7.0 refers to diverting excess run-off to another device, but provides no details as how this would occur, or what device that would be. Given excess run-off occurs during periods of sustained rainfall, which depending on soil type can make construction of controls problematic, these other controls should ideally be identified and constructed prior to works commencing.

95. Following the clarification of the above matters, and further assessment from Mr Bevin, I should be in a position to provide a recommendation to the Commissioners at the hearing. I have included some indicative conditions from other earthworks consents at the end of Appendix 1 which provide an example of the standard types of conditions used for works such as these.

K. NATIONAL ENVIRONMENT STANDARDS

96. Section 104 requires consideration of any NES's that are relevant. The National Environmental Standard for Sources of Human Drinking Water (NES) is a regulation made under the Resource Management Act (1991) that sets requirements for protecting sources of human drinking water from becoming contaminated. It came into effect on 20 June 2008.

97. For the purpose of the NES, a human drinking water source is a natural water body such as a lake, river or groundwater that is used to supply a community with drinking water. The standard applies to source water before it is treated and only sources used to supply human drinking water i.e. not stock or other animals.

98. Schedule B of the One Plan includes a value for both industrial abstraction (IA) and water supply (WS) for this water management zone. Regulations 7 (Granting of water permit or discharge permit upstream of abstraction point where drinking water meets health quality criteria) and Regulation 8 (Granting of water permit or discharge permit upstream of abstraction point where drinking water not tested or does not meet health quality criteria) of the NES only apply to an activity that has the potential to affect a registered drinking-water supply that provides no fewer than 501 people with drinking water for not less than 60 days each calendar year

99. There are no **registered** drinking-water supply's located downstream of the proposed discharge. The Pahiatua Water Supply infiltration gallery is located upstream of the proposed discharge location.
100. The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) applies to certain activities on certain land, including the disturbance of soil on land where an activity described on the Hazardous Substances and Industries List (**HAIL**) is taking place. Wastewater treatment is an activity that is included on the HAIL.
101. As far as I am aware earthworks are not proposed within the wastewater site itself. The proposed wetland, which is to be constructed, is located on adjacent farmland and not within the HAIL site envelope and so I do not consider this standard to be currently relevant. If TDC are to undertake earthworks within the WWTP site to accommodate new treatment infrastructure it will need to comply within the permitted activity requirement contained in Regulation 8(3) of the NESCS. This would also apply to the wetland once it was constructed and operational. However this standard does not apply until the wetland is operational (i.e. receiving wastewater).

L. RELEVANT NATIONAL POLICY STATEMENTS

National Policy Statement for Freshwater Management

102. Section 104 requires consideration of National Policy Statements that are relevant. In this case the National Policy Statement for Freshwater Management (2014) is relevant.
103. The NPSFM outlines a number of national values of freshwater where water is valued for a number of uses, including the cleaning, dilution and disposal of waste. Recognising and respecting fresh waters intrinsic values, such as safeguarding the life-supporting capacity of water is also noted.
104. The NPSFM 2014 states how councils are to set objectives, policies and rules regarding fresh water in their regional plans. They must do this by establishing freshwater management units across their regions and identifying the values that communities hold for the water in those areas, e.g. ecosystem health and recreational values.

105. Councils are required to gather water quality and quantity information on the water bodies to assess their current state and decide the water quality objective or goal (grouped into A, B or C bands) for each value the community has chosen based on the economic, social, cultural, and environmental impact to that community. The final step is for the community to assess how, and over what timeframes, those goals are to be met.
106. “Ecosystem Health” and “Human Health for Recreation” are compulsory national values and must be provided for everywhere. The NPSFM 2014 now includes nationally-set minimum acceptable states for these two values. There are nine of these and they are called national bottom lines. Seven of these attributes relate to “Ecosystem Health.”
107. The national bottom line for Human Health for Recreation is set at a level for wading and boating. Councils are required to consider whether to manage water in rivers and lakes for swimming or any other level above the national bottom line.
108. Councils cannot set an objective below a national bottom line unless:
- i. water quality is naturally below the bottom line, e.g. the effects of the Mount Ruapehu crater lake overflows into the Whangaehu River; or
 - ii. significant existing infrastructure such as the hydro-electric power stations, means water quality is below the bottom line
109. I consider that Policy A3(a) is of particular importance, whereby regional councils may impose conditions on discharge permits to ensure the limits and targets specified pursuant to Policy A1 and Policy A2 can be met. Importantly none of the One Plan’s Schedule E target values lie below national bottom lines.
110. The NPSFM is a higher order document. The One Plan (Change 1) includes Policy 14-9 which guides any consent decision making requirements from the NPSFM. It is my view that as long as the Commissioner gives due consideration to this Policy (Included in **Appendix two – Planning Provisions**) in their decision making process, then they have had regard to the NPSFM.

M. REGIONAL ONE PLAN POLICY STATEMENT

111. Section 104(b)(i)(v) of the RMA requires consideration of a Regional Policy Statement (RPS), in this case part one of the One Plan. The applicant has provided an assessment of the RPS in the application⁵. While I broadly agree with the objectives and policies identified, I have widened the assessment to include all the objectives and policies that I consider relevant. Rather than repeat the objectives and policies, I have provided commentary of the relevant objectives and policies below and the full text of the provisions are contained within **Appendix two**.
112. It is unclear what version of the One Plan has been used in the application (Proposed or Operative) in regards to the planning assessment. In the interests of clarity, the One Plan became operative on 19 December 2014.
113. Minor amendments were made to the One Plan through Plan Change 1, which came into effect from 28 April 2016. The plan change inserted a new policy (Policy 14-9) and consequential amendments required by Policy the National Policy Statement for Freshwater Management (NPSFM). It also provided the opportunity to correct a number of minor errors that have been identified since the One Plan became operative.
114. This application was lodged in December 2014. Therefore the correct planning instrument in respect of the activity status that applies to the discharges is the One Plan 2014. The correct planning instrument in respect of assessment of objectives and policies is One Plan - Plan Change 1 (2016).

Chapter 2 – Te Ao Maori	
Objective	Policy
Objective 2-1: Resource Management	Policy 2-1: Hapū and iwi involvement in resource management Policy 2-3: The mauri of water Policy 2-4: Other resource management issues.

⁵ Application, Section 3.2, Page 37

115. Policy 2-1 provides some direction in respect of *Hapū** and *iwi** involvement in resource management, including:

- c. development of catchment-based forums, involving the Regional Council, *hapū**, *iwi**, and other interested groups including resource users, for information sharing, planning and research,
- d. development, where appropriate, of *hapū** and *iwi** cultural indicator monitoring programmes by the Regional Council, and...

....

- i. the Regional Council advising and encouraging *resource consent*[^] applicants to consult directly with *hapū** or *iwi** where it is necessary to identify:
 - (i) the relationship of Māori and their culture and traditions with their ancestral *lands*[^], *water*[^], *sites**, *wāhi tapu** and other *taonga** (including *wāhi tūpuna**), and
 - (ii) the actual and potential adverse *effects*[^] of proposed activities on those relationships.

116. Policy 2.3 is very directive and requires the Regional Council to have regard to the mauri of water by implementing Policy 2-1(a) to (i).

117. Under Policy 2.4 specific resource management issues identified as being significant are set out. This is not intended to be an exhaustive list. Policy 2-4 (a) which relates to the management of water quality in the Region and Policy 2.4(d) relates to access to and availability of clean water to exercise cultural activities is also considered.

118. There is a preference to have the discharge removed from the River, or at the very least to assess alternative disposal options (e.g. land). Based on the submissions received and the issues identified within them, I do not consider that the proposal is fully consistent with the above Objective and Policies.

119. The three iwi submissions received have indicated some willingness to have meaningful and purposeful engagement. What form this may take with this application is unclear, however the submission of Kahungunu ki Tamaki nui-a-rua requests that all scientific monitoring data undertaken by or on behalf of Tararua District Council is provided to them. This submission also considered that the

application does not adequately address or cater for the cultural and spiritual relationships that the hapu of Kahungunu ki Tamaki nui-a-rua have with the Mangatainoka River and its Catchment.

120. The Applicant, via Rangitāne o Tamaki nui a Rua Inc (RTnaR) did commission a Cultural Values Assessment (CVA). The CVA formed part of the application documentation when the application was notified. The CVA was undertaken to assess the interests of RTnaR regarding the Pahiatua WWTP. The RTnaR submission records that they wish the applicant to continue work towards advanced operations in line with a goal of nil discharge to waterways. This statement is reaffirmed on page 56 of the CVA which notes

“...they are fully supportive of the kaupapa of Te Kāuru (Manawatū River Eastern Hapū Collective), which holds that that no treated wastewater from sewage treatment plants should be discharged into the Manawatū River system. Rather, a ground based dispersion system should be utilised wherever possible.”

121. The CVA goes on to note that RTnaR understand that the prospects for a ground-based dispersion system are limited by the cost and availability of suitable land that would accommodate such a system.

122. As the application stands now, it is my view that the effects associated with the ‘discharge’ are inconsistent with the objectives and policies of Chapter 2 of the One Plan. Further evidence provided at the hearing from all iwi submitters should help with further assessing this objective and supporting policies.

Chapter 3 – Infrastructure and Energy	
Objective	Policy
Objective 3-1: Infrastructure and other physical resources of regional or national importance	<p>Policy 3-1: Benefits of infrastructure and other physical resources of regional or national importance</p> <p>Policy 3-3: Adverse effects of infrastructure and other physical resources of regional or national importance on the environment</p>

123. The application has identified the above objective and policy as being relevant to the Pahiatua WWTP. I agree that these provisions are relevant and should be

considered. Policy 3-1 clause (viii) specifically lists public or community sewage treatment plants and associated reticulation and disposal systems as infrastructure of regional importance. The focus of these Objectives and Policies require recognition of regionally important infrastructure and the role they play in servicing communities.

124. Policy 3-3 (a) is relevant insofar as the Regional Council must recognise and provide for the operation, maintenance and upgrading of all such activities [infrastructure of regional importance] once they have been established.
125. I do not consider Policy 3-3 (c) to be relevant as that relates to the establishment of new infrastructure. In this case I consider that the works occurring at the WWTP are upgrades of existing infrastructure.
126. I consider that the application is consistent with the provisions of this chapter.

Chapter 4 – Land	
Objective	Policy
Objective 4-2: Regulating potential causes of accelerated erosion	Policy 4-2: Regulation of land use activities

127. Chapter 4 of the One Plan seeks to ensure that the potential for adverse effects associated with accelerated erosion, which can be exacerbated by activities such as vegetation clearance, land disturbance, forestry and cultivation are managed. This is achieved by Objective 4-2 and Policy 4-2.
128. If undertaken in accordance with appropriate conditions of consent imposed, which should include a certified ESCP, the earthworks activity in order to construct the wetland should not give rise to any increase of accelerated erosion at that site.

Chapter 5 – Water	
Objective	Policy
Objective 5-1: Water management values	Policy 5-1: Water management zones and values
Objective 5-2: Water quality	Policy 5-2: Water quality targets

	<p>Policy 5-3: Ongoing compliance where water quality targets are met</p> <p>Policy 5-4: Enhancement where water quality targets are not met</p> <p>Policy 5-6: Maintenance of groundwater quality</p> <p>Policy 5-9: Point source discharges to water</p> <p>Policy 5-11: Human sewage discharges to water</p>
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129. I largely agree with the objectives and policies identified in the application (section 3.2.2) regarding the relevant water quality provisions. I agree that Policy 5-4 is relevant as from Mr Patterson’s report it is clear that not all water quality targets (Schedule E) are met. As the proposed discharge quality is unknown it is unclear as to whether the upgrades are going to improve the discharge to the extent that the Schedule E targets are met, or at least on a downwards trajectory in the case where the targets are already exceeded upstream.
130. The s92 response did not provide any determinative evidence as to what the future water quality may be – hence Mr Patterson’s comments that he was unable to undertake a comprehensive analysis of the water quality of the discharge following the upgrades.
131. Where the discharge does currently meet the Schedule E targets, then Policy 5-3 is relevant and applies. The discharge (current or future), cannot detract from those targets that are currently being met. The conditions included in Appendix 1 are intended to ensure that the targets are not degraded from their current state when they already meet the schedule E targets.
132. Policy 5-6 deals with maintenance of groundwater quality. This policy is relevant because of the ‘pond seepage’ consent and the wetland overland path seepage discharge permit.
133. Policy 5-9 relates to the management of point source discharges into water. In respect of this policy I have provided a summary table below.

Policy 5-9: Point source discharges[^] to water[^]

The management of point source discharges[^] into surface water[^] must have regard to the strategies for surface water[^] quality management set out in Policies 5-3, 5-4 and 5-5, while having regard to:

(a) The degree to which the activity will adversely affect the Schedule B Values for the relevant *Water Management Sub-zone**

This is assessed in terms of life supporting capacity more than any of the other values. Mr Patterson's evidence establishes that the receiving environment is already enriched and multiple stressors are in play. The addition of the discharge, whilst largely not breaching target values (unless already exceeded) is likely maintaining conditions that in turn maintain these stressors on life supporting capacity.

It should be noted that mauri is one of the Schedule B values. The degree to which this value is adversely affected has been partially quantified through the CVA from Rangitāne o Tamaki nui a Rua Inc (RTnaR).

(b) Whether the discharge[^], in combination with other discharges[^], including non-point source discharges[^] will cause the Schedule E water quality targets* to be breached

The change in QMCI is one of the Schedule E targets. This discharge meets that the QMCI target. SIN does not meet the annual average target downstream of the discharge, however upstream of the discharge also does not meet the annual average target for these years. DRP has not meet the annual average target downstream of the discharge in several years (2010, 2011, 2012, 2013), but also does not meet upstream of the discharge in several of the years (2011, 2012, 2016). Downstream of the discharge does not meet the compliance with the One Plan for *Chlorophyll a* biomass. Neither upstream nor downstream of the discharge currently meet the filamentous periphyton coverage targets as outlined in the One Plan.

Policy 5-9: Point source <i>discharges</i>[^] to <i>water</i>[^]	
The management of point source <i>discharges</i> [^] into surface <i>water</i> [^] must have regard to the strategies for surface <i>water</i> [^] quality management set out in Policies 5-3, 5-4 and 5-5, while having regard to:	
(c) The extent to which the activity is consistent with <i>contaminant</i> [^] treatment and <i>discharge</i> [^] best management practices	Until the applicant provides effluent quality standards for the discharge it is not possible to assess the application with best management practices.
(d) The need to allow reasonable time to achieve any required improvements to the quality of the <i>discharge</i> [^]	No timeline has been proposed in the application within which the upgrades will be completed. It would be useful for the applicant to provide a finalised timeline.
(e) Whether the <i>discharge</i> [^] is of a temporary nature or is associated with necessary <i>maintenance</i> [^] or <i>upgrade</i> [*] work and the <i>discharge</i> [^] cannot practicably be avoided	N/A
(f) Whether adverse <i>effects</i> [^] resulting from the <i>discharge</i> [^] can be offset by way of a financial contribution set in accordance with Chapter 18	N/A
(g) Whether it is appropriate to adopt the best practicable option.	The application states that the design upgrades are the best practicable option. However in the absence of evidence in respect of final discharge water quality, and an assessment of storage options in times of low flow, I consider that it is hard to determine if this is the best practicable option. The applicant may be able to present further evidence in this regard.

134. Policy 5-11 is a pivotal policy in respect of WWTP discharges. Policy 5-11 in the **Proposed** One Plan (2010) included a pathway through this policy if the final

discharge was via a rock filter. A rock filter was originally included in the application as being one of the design components.

135. However, following One Plan mediation, and consequential adoption of the One Plan (2014) the rock filter clause was deleted. Policy 5-11 in the One Plan (2014) remained unchanged by Plan Change 1 (2016).

136. Policy 5-11 now reads

Policy 5-11: Human sewage *discharges*[^]

Notwithstanding other policies in this chapter:

- (a) before entering a surface *water body*[^] all new *discharges*[^] of treated human sewage must:
 - (i) be applied onto or into *land*[^], or
 - (ii) flow overland, or
 - (iii) pass through an alternative system that mitigates the adverse *effects*[^] on the *mauri*^{*} of the receiving *water body*[^], and
- (b) all existing direct *discharges*[^] of treated human sewage into a surface *water body*[^] must change to a treatment system described under (a) by the year 2020 or on renewal of an existing consent, whichever is the earlier date.

137. Clause (b) of this policy redirects any renewal application (such as this), to achieve one of (i), (ii) or (iii) of clause (a). Therefore in order to be consistent with this policy the discharge needs to **either** be applied onto or into land (i), or flow overland (ii), or pass through an alternative system that mitigates the adverse effects on the mauri of the receiving water body (iii). This policy is to be achieved at the time the consent is renewed.

138. Currently the discharge meets none of those clauses. However the information provided from the applicant on 12 April 2017 included an earthworks and land seepage application, specifically to address this policy. It is my understanding that it is the Applicant's intention to address both clause (ii) and (iii) of policy 5-11 by virtue of this application.

139. This application notes that the earthworks planned completion date is March 2018. It does not state when the wetland will be receiving effluent post construction.

140. The policy requires the applicant to consider the effects of a discharge on Mauri. The applicant has applied for the construction of an additional wetland to be included to the treatment system. On the face of it, this appears to be a means of mitigating the effects of human sewage discharge. In respect of Policy 5-11 (ii), I consider that the wetland proposal is consistent with this part of the policy. What is unclear from the design is how far the design goes to address the adverse effects on the mauri of the receiving water body. Therefore I am of the opinion that the applicant is better placed consulting with local Iwi to determine a culturally appropriate method of protecting the Mauri as is considered under point (iii) of Policy 5-11.

Chapter 7 – Air	
Objective	Policy
Objective 7-1 Ambient air quality	Policy 7-2: Regional Standards for ambient air quality Policy 7-3: Regulation of discharges to air

141. Based on the report of Ms Ryan and my assessment of the above objective and policies, I am satisfied that the potential odour discharge is consistent with these provisions.

N. REGIONAL ONE PLAN

Relevant Objectives and Policies

142. Of the Chapters in the Regional Plan, it is Chapter 13 (land disturbance associated with the wetland construction), Chapter 14 (discharge of wastewater to water, and wastewater seepage to land) and Chapter 15 (odour) which require consideration.

Chapter 13 – Land	
Objective	Policy
Objective 13-1: Accelerated erosion - regulation of vegetation clearance, land disturbance, forestry and cultivation	Policy 13-1: Regional rules for vegetation clearance, land disturbance, forestry and cultivation Policy 13-2: Consent decision-making for vegetation clearance, land disturbance, forestry and cultivation

143. Objective 13-1 seeks to ensure that structures and activities are undertaken in a manner that ensures that accelerated erosion and the resultant increased sedimentation in water bodies is avoided as far as reasonably practicable
144. Policy 13-1 is a directive policy which directs the Regional Council to have a regulatory framework in place to manage these types of activities. The Regional Council has given effect to this Policy via Rule 13-2. Policy 13-2 provides decision making guidance when making a recommendation on whether consent should be granted, and what mitigation should be imposed.
145. In respect of the wetland construction earthworks, I am satisfied that the application is consistent with the above objective and policies.

Chapter 14 – Discharges to Land and Water	
Objective	Policy
Objective 14-1: Management of discharges to land and water and land uses affecting groundwater and surface water quality.	<p>Policy 14-1: Consent decision-making for discharges to water</p> <p>Policy 14-4: Options for discharges to surface water and land</p> <p>Policy 14-8: Monitoring requirements for consent holders</p> <p>Policy 14-9: Consent decision making requirements from the National Policy Statement for Freshwater Management</p>

146. Chapter 14 relates to Discharges to Land and Water. Objective 14-1 seeks to manage discharges and land use activities in a manner which safeguards the life supporting capacity of water and provides for the Values associated with waterbodies, provides for the objectives and policies of Chapter 5 and avoids, remedies or mitigates adverse effects of discharges to land and water on surface or groundwater.
147. The supporting Policy 14-1 sets out what needs to be considered when making decisions including an assessment against the objectives and policies of Chapter 5. The assessment of Chapter 5 was completed earlier in this report and so is not repeated here.

148. Policy 14-4 requires both the applicant and decision maker to consider utilising alternative discharge options, or a mix of discharge regimes, for the purpose of mitigating adverse effects, including applying the best practicable option. These matters must be considered and include:
- a. Discharging contaminants onto and into land as an alternative to discharging contaminants to water,
 - b. Withholding from discharging contaminants into surface water at time of low flow, and
 - c. Adopting different treatment and discharge options for different receiving environments or at different times (including different flow requires or levels in surface water bodies).
149. The applicant did provide a preliminary investigation report (Appendix III of the application) regarding possible land irrigation for the Pahiatua Wastewater as part of the December 2014 application. I am not aware of a more substantive report beyond this.
150. The Appendix III memo contained in the application stated that the best option was to maintain the existing method of discharge (to water) as long as any effects could be adequately mitigated, but that additional storage should be provided to cater for periods of potential low flow in the Mangatainoka River. I have not seen an assessment of providing additional storage addressed comprehensively in any documentation to date.
151. It would be helpful if the s41B report clarifies whether this policy (including clauses (b) and (c)) has been considered any further other than what is detailed in the application.
152. Policy 14-8 makes it clear that point source discharges of contaminants to water will generally be required to have the volumes discharged measured and telemetered. It also states that monitoring and reporting on the quality of the discharge at the point of discharge as well as the quality of the receiving water upstream and downstream may also be required. The monitoring regime should also align with the Regional Council's environmental monitoring programme where reasonably practicable in order to assess cumulative impacts.

153. I see no reason for this application (should it be granted) to deviate from this policy. I consider that monitoring of effluent flows as well as a supporting monitoring regime for the discharge should form a part of any possible consent conditions. I note that Mr Baker's report also suggests that monitoring of the influent volume should be required in order to calculate potential seepage volumes.

154. Consideration of Policy 14-9 is required in order to address the requirements of the NPS-FM 14. It was not possible for assessment of this policy to be included in the application, as this policy was not in existence until Plan Change 1 (2016).

155. This policy directs the Regional Council to have regard to the following matters

(b) When considering any application for a *discharge*[^] the Regional Council must have regard to the following matters:

(i) the extent to which the *discharge*[^] would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh *water*[^] including on any ecosystem associated with fresh *water*[^]; and

(ii) the extent to which it is feasible and dependable that any more than minor adverse effect on fresh *water*[^], and on any ecosystem associated with fresh *water*[^], resulting from the *discharge*[^] would be avoided.

This clause of the policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.

(c) When considering any application for a *discharge*[^] the Regional Council must have regard to the following matters:

(i) the extent to which the *discharge*[^] would avoid contamination that will have an adverse effect on the health of people and communities as affected by their secondary contact with fresh *water*[^]; and

(ii) the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their secondary contact with fresh *water*[^] resulting from the *discharge*[^] would be avoided.

This clause of the policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 took effect on 4 July 2014.

156. It is my view that the lack of certainty around the timeline for the operational completion of the upgrades, the discharge volumes and the discharge quality mean that I cannot address this policy at this point in time.

Chapter 15 – Discharges to Air	
Objective	Policy
Objective 15-1: Air quality	Policy 15-2: Consent decision-making for other discharges into air

157. As with the equivalent Chapter in the Regional Policy Statement I am satisfied that the potential odour discharge is consistent with these provisions. In particular I note that clause 15-2 (b) states that regard must be given to the guidelines in Section 15-3 in respect of managing noxious, dangerous, offensive and objectionable effects. The recommendation of Ms Ryan's report suggests what types of conditions are required to manage these possible effects.

158. The final chapter that requires consideration is Chapter 12 – General objectives and policies.

Chapter 12 – General objectives and policies	
Objective	Policy
Objective 12-2: Consent duration and review	Policy 12-4: Consent conditions Policy 12-5: Consent durations

159. Chapter 12 sets out general objectives and policies, Policy 12-4 deals with the imposition of consent conditions and Policy 12-5 deals with consent durations.

160. The applicant has sought a term of 15 years for the discharge permits (land, water and air) and a term of 5 years for the construction of the wetland. Under this policy consents are generally granted for the term sought by the applicant, other than when providing for a term set under (b) or for other identified reasons makes this inappropriate.

161. Consideration must be given to common catchment expiry dates. Consents should expire or have the ability to be reviewed on these dates and every 10 years thereafter. The common catchment expiry for this Water Management Zone is 1 July 2010. As this date is within 3 years prior to the next relevant catchment date (1 July 2020) the policy states that an expiry date of 1 July 2030 may be granted.

162. To grant a date beyond this consideration must be given to the following criteria set out in (i) through (iv). I have assessed each of these below.

- (i) I am not aware of directly relevant codes of practice or good practice guidelines in respect of WWTP's
- (ii) In balancing environmental protection and investment by the applicant, to my mind there uncertainty with regards to the scale of potential effects (cumulative), particularly on the Mangatainoka River (acknowledging that the upgrades should result in an improvement over and about what the River currently experiences). I have not seen evidence as to what the existing investment made by the applicant is in relation to the storage ponds or overall asset management.
- (iii) This clause provides for review conditions to be imposed. I am of the view that review clauses are an important tool in the resource management process, and should be used. A review clause has been included within the recommended conditions.
- (iv) Clause (iv) does allow for consideration of a longer consent term for sewage treatment plants.

163. Clause (c) of policy 12-5 provides direction as to matters that should be taken into account when considering shorter consent durations. To my mind there is enough uncertainty within the application and s92 responses in respect of proposed upgrade timeframes (operational completion), final discharge volumes, and final discharge quality which would warrant a consent term of less than 15 years.

164. I make further comment on possible permit duration at Section S of this report.

Rule Framework

165. All the permits associated with the primary application are regulated by regional rules that are discretionary in nature and are subject to 104 (B) of the Act. This provides the ability to either grant or refuse the application; and should it determine that the application can be granted, conditions can be imposed under s108.

166. The supplementary application for earthworks is regulated by a controlled activity rule. Associated with this is the land seepage component, which is a discretionary activity. As the earthworks can be undertaken in isolation I do not

think the two activities contained in the supplementary application should be bundled.

167. As noted previously, although this application was lodged under the One Plan (2014), the rule status for each of the permits was unchanged by One Plan Change 1 (2016).

168. The supplementary application should be considered entirely under the One Plan Change 1 (2016).

Relevant Rule		
Activity	Relevant Rule	Status
Discharge of treated wastewater to Water	Rule 14-30 – Discharges of water or contaminants to land or water not covered by other rules in this Plan or chapter	Discretionary
Discharge of treated wastewater to land where it may enter water (pond seepage)	Rule 14-30 – Discharges of water or contaminants to land or water not covered by other rules in this Plan or chapter	Discretionary
Discharge to Air (odour)	Rule 15-17 – Other discharges	Discretionary
Supplementary application		
Earthworks – wetland construction	Rule 13-2 – Large scale land disturbance, including earthworks	Controlled
Discharge of treated wastewater to land where it may enter water (wetland seepage)	Rule 14-30 – Discharges of water or contaminants to land or water not covered by other rules in this Plan or chapter	Discretionary

O. OTHER MATTERS - SECTION104(C)

Manawatu River Accord

169. The goal of the Accord is to improve the mauri (life-force) of the Manawatu River catchment, such that it sustains fish species, and is suitable for contact recreation, in balance with the social, cultural and economic activities of the catchment community. The specific goals of the Accord are:

a. The Manawatū River becomes a source of regional pride and mana.

- b. Waterways in the Manawatū Catchment are safe, accessible, swimmable, and provide good recreation and food resources.*
- c. The Manawatū Catchment and waterways are returned to a healthy condition.*
- d. Sustainable use of the land and water resources of the Manawatū Catchment continues to underpin the economic prosperity of the Region*

170. Tararua District Council is a signatory to the Accord. The aspirational target of the 2011 Action Plan was that this application would be resolved within 12 months of the Accord Action Plan becoming operative (2011). The revised goal of the 2016 Action Plan was that the current consent application would be resolved as per RMA timeframes. In this instance timeframes have been extended, however these have all been done by utilizing the s37 procedures of the RMA.

171. The Accord goal represents a community opportunity to develop leadership in catchment improvement and capture the social and economic benefits of such leadership. The Applicant has spent some money, including, as I understand it, money received from the Ministry for the Environment Clean Up Fund. The implementation of some of these upgrades has led to improvements to the quality of the wastewater, however the full extent of water quality following the upgrades is currently unknown.

P. SECTION 105

172. Section 105 requires the applicant to consider the effects of the discharge on the receiving environment, reasons for the proposed choice and consideration of alternatives.

173. The applicant provides an outline of alternatives considered in Section 1.11 of the application. These alternatives included;

174. Land disposal – the application notes that land disposal has been considered for the site, and that a preliminary report was commissioned. This report was provided in Appendix III of the December 2014 application.

175. When referring to the conclusion of the Appendix III memo the application states

“In summary we would suggest that the discharge to land is not a cost effective option for this site as this relies on relatively high application rate and this would still require significant temporary storage when any non-irrigation conditions occur (i.e. heavy rainfall occurs)

176. **However**, the memo went on to record

“We would recommend the best option was to maintain the existing method of discharge (to water), if any affects could be adequately mitigated, but provide for additional storage to cater for periods of potential low flow in the Mangatainoka River.”

177. I have seen no evidence that the provision of additional storage has been investigated. It would be helpful if this point could be addressed in the s41B reports – particularly in relation to addressing Policy 14-4 (b).

178. Alternative treatment configurations – The application details three different alternative treatment configurations. All options relate to the use of a rock filter. I understand this is now not the case. The s41B reports need to confirm what treatment options will now be occurring at the site.

Q. SECTION 107

179. Section 107 of the RMA notes the restrictions on the granting of a discharge permit. A consenting authority shall not grant a discharge if, after reasonable mixing, the contaminant discharged is likely to give rise to any of the following:

- a) *The production of conspicuous oil or grease files, scums or foams, or floatable or suspended materials;*
- b) *Any conspicuous change in the colour or visual clarity;*
- c) *Any emission of objectionable odour;*
- d) *The rendering of freshwater unsuitable for consumption by farm animals;*
- e) *Any significant adverse effects on aquatic life.*

180. The application includes a comprehensive assessment of s107 matters at section 3.1.4 of the application. It is my understanding that there is an increase in *E. coli* between upstream and downstream of the discharge. This increase is unlikely to

impact stock water quality. Mr Patterson considers that ammonia and Nitrate toxicity are not an issue.

181. In respect of effects on aquatic life Mr Patterson is of the view that pH, temperature, and QMCI do not indicate anything of concern in respect of the effect of the discharge. However he considers that the impact of the discharge on dissolved oxygen levels is more difficult to determine. Continuous monitoring is required to monitor the impact of this effect. It is known at the Pahiatua Town Bridge site that there are very low levels of DO at times. For this reason it is possible that the discharge is adversely impacting dissolved oxygen levels or at least maintaining low levels at times through periphyton growth. There is no way to confirm this with the current data available other than to point to the high levels of filamentous growth and the known DO problems upstream.
182. The above assessment is based on the effects of the discharge as measured in the River.
183. It is unclear when the discharge will be removed from Town Creek. The additional application for the land use consent (earthworks/wetland construction) anticipated that the wetland construction would be completed by March 2018.
184. Should there be any s107(1) contraventions in either the River or Town Creek, then I consider that the applicant would be reliant on s107(2)(b) in order for the consent to be granted. I consider that the removal from Town Creek and all upgrades need to be completed by **1 July 2018**.

R. PART 2 ASSESSMENT

185. This report does not provide an analysis of the application against particular matters that appear in Part 2 RMA. I have taken this approach because I am aware of the recent High Court authority (*R J Davidson Family Trust v Marlborough District Council*) to the effect that consideration of an application under s 104 of the RMA does not permit general recourse to Part 2 RMA **unless** the relevant provisions of the planning instruments to be considered under s 104 RMA are invalid, incomplete or uncertain (this is the Supreme Court's approach from the *King Salmon* Decision).

186. My analysis of the relevant provisions of the One Plan is that, in my opinion, there is coverage of relevant resource management considerations in the One Plan. I am also unaware of any challenges to validity of the relevant provisions. Accordingly, in my opinion, recourse to Part 2 RMA is not necessary in this case.
187. I further understand that until such time as there are any appeals to higher courts and any subsequent decision/s, that the approach as confirmed by the High Court is the one to be followed.

S. CONSENT DURATION

188. The One Plan identifies common catchment expiry dates and in this case, the Mangatainoka common catchment expiry is set at 2010.
189. Policy 12-5 of the One Plan to provide guidance on the duration of the consents. In this instance the applicant has sought a term of 15 years for the three primary permits. They have further sought a construction term of 5 years for the supplementary Land Use (wetland construction) application. The land seepage permit for the unlined part of the wetland also seeks a term of 15 years.

Chapter 12 – General objectives and policies	
Objective	Policy
Objective 12-2: Consent duration and review	Policy 12-4: Consent conditions Policy 12-5: Consent durations

190. In this case, I consider that a term of 15 years is too long. Currently there is little information to be able to determine the instream effects following the completion of the upgrades to the plant. In my opinion there is still a level of uncertainty on the impact of the final effects on the Mangatainoka River to warrant a consent term of this length for this application. Neither does this application fulfil the requirements of Chapter 2, Policy 5-9, Policy 5-11 (noting that it should achieve this policy post wetland construction) and potential some provisions of Chapter 14. This, together with the uncertainty around the effects of the proposal, it is considered that 15 years is too long.

191. Should the Panel be of a mind to grant this application based on the information included in the s42A reports, the applicant s41 B reports and submitter evidence (expert and layperson), I am of the view that the consents should have a duration of no more than **10 years**. I have recommended that there is provision for a review to be undertaken in **July 2020** to align with the common catchment expiry for this water management zone.

192. I have also recommended a 'performance review' condition. The purpose of such a condition is to provide for a mid-term stocktake of reporting on actual environmental effects measured by monitoring to date compared with the outcomes predicted in the application (and in any evidence to this hearing.) The onus for completing this review lies with the applicant.

193. Such a condition would read similar to the following:

The Permit Holder shall, no later than six months following the 5th anniversary of the commencement date of these Permits, have completed a performance review of the operation of Pahiatua Wastewater Treatment Plant. In particular, the performance review shall evaluate:

- (a) The effectiveness of the conditions of these Permits in avoiding, remedying and mitigating any adverse effects on the environment;
- (b) The Permit Holder's record of compliance with these Permit conditions;
- (c) The effectiveness of the Permit Holder's methods in achieving the One Plan schedule E targets downstream of the discharge point;
- (d) Based on available monitoring and state of the environment data, the condition of the Mangatainoka River catchment (including groundwater resources) downstream of the discharge;
- (e) Based on the Permit Holder's monitoring records for the preceding years, whether there is any discernible correlation between the discharges and the quality of any downstream water body and any downgradient groundwater; and;
- (f) Whether any amendments are required or recommended to any conditions of consent to address any significant adverse effects on the environment.

The Permit Holder shall forward to the Manawatu-Wanganui Regional Council's Regulatory Manager, no later than 3 months after completion of the performance review, a report detailing the findings of the review accompanied by an audit of the performance review prepared by an appropriately qualified and experienced water quality scientist.

194. The fifth anniversary is a somewhat arbitrary figure and is reflective of a mid-way point in the consent duration. However this type of condition could also be used so the report is submitted just prior to July 2020, to lead into any possible s128

review, or again it could be used closer to the expiry of the consent (2 years prior).

195. Noting that the applicant is proposing to undertake the earthworks associated with the wetland construction over a two month period with an anticipated completion date of March 2018 I consider that the term imposed for the construction and commissioning of the wetland should be no more than **2 years**.

T. CONCLUSION

196. It is my view that there is not enough clarity or information in the application, or in either of the s92 responses to allow me to make an unequivocal recommendation to the Commissioner in respect of the granting of this application.
197. There is no certainty regarding effluent quality, and neither the influent and effluent volumes are known.
198. Notwithstanding the above, and bearing in mind that the applicant is in a position to address some of these matters in the s41B reports, I have provided conditions in Appendix 1 to assist the Commissioner's and other parties involved in the hearing.
199. In respect of the land use consent (supplementary application), there are some matters which need to be addressed in the s41B report before I can recommend a full suite of conditions. However some indicative conditions which have been used on similar earthworks applications have been included at the end of Appendix 1.