BEFORE A HEARINGS PANEL OF THE GREATER WELLINGTON REGIONAL COUNCIL

UNDER	**the Resource Management Act 1991 ("the Act")**
IN THE MATTER OF	**Resource Consent Applications to Greater Wellington Regional Council pursuant to section 88 of the Act to discharge contaminants to land, air and water**
BY	**South Wairarapa District Council**
FOR	**the proposed staged upgrade and operation of the Featherston Wastewater Treatment Plant**

BRIEF OF EVIDENCE OF SVEN PAUL EXETER ON BEHALF OF SOUTH WAIRARAPA DISTRICT COUNCIL

PLANNING AND RESOURCE MANAGEMENT

DATED 2 APRIL 2019

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EVIDENCE OF SVEN PAUL EXETER ON BEHALF OF SOUTH WAIRARAPA DISTRICT COUNCIL

1. My full name is Sven Paul Exeter. I hold a Bachelor of Science in Geography (1st class honours) and Environmental Studies from Victoria University of Wellington (2005). I am an Associate of the New Zealand Planning Institute (2012). I also hold an Intermediate Certificate in Sustainable Nutrient Management in New Zealand Agriculture ("Overseer Course") from Massey University of Palmerston North (2013). I am an Infrastructure Sustainability Accredited Professional ("ISAP") from the Infrastructure Sustainability Council of Australia (2017, "ISCA").

RELEVANT EXPERIENCE

2. I am currently a Senior Planner at Mott MacDonald New Zealand Limited (Mott MacDonald). I have been practicing in resource management and planning related roles since 2005 when I joined Hawke's Bay Regional Council (HBRC) as a hydrological data analyst. In 2006 I moved within HBRC into a resource consent processing planning role and processed a large number of resource consents for a range of activities including discharges of contaminants to the environment. During my time at HBRC I presented planning evidence at several council hearings.

3. Since joining Mott MacDonald in 2014 I have worked on a range of projects and I have been involved in the preparation and management of feasibility studies, bylaws, plan changes, consent applications and assessments of environmental effects (AEE) for various projects throughout New Zealand, particularly in the water sector.

CODE OF CONDUCT

4. I have read the Code of Conduct for Expert Witnesses in section 7 of the Environment Court's Practice Note (2014). I agree to comply with that Code of Conduct. Except where I state that I am relying upon the specified evidence of another person, my evidence in this statement is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions which I express.

MY ROLE IN THE PROJECT

5. This evidence is presented in respect of the applicant South Wairarapa District Council's ("SWDC") applications (WAR170229) for resource consents to enable the ongoing operation, maintenance and upgrade of the Featherston wastewater treatment plant ("FWWTP Project" or "the Project" or "the Scheme").

6. I was not the author[1] of the consent application and AEE for the Project that was lodged in February 2017. I have been involved in this project as the lead planner for SWDC at the end of the s92 (RMA) phase in late 2017. I became more involved with the Project in early 2018, when I met with Greater Wellington Regional Council's (GWRC) land and groundwater technical experts Pattle Delamore Partners (PDP) where we discussed their key concerns and information requirements regarding the Project.

7. I assisted with preparation of the two supplementary Mott MacDonald memos that were tabled with GWRC:

   a. *Activity Status* (10 July 2018); and

   b. *Policy P71 (PNRP) and S107 (RMA)* (7 August 2018).

8. I have walked the FWWTP site, the discharge point, Donald Creek in parts, and have visited the surrounding area including the proposed land discharge sites and adjoining areas. From my visit I also gained an understanding of the distances of submitter's properties and houses to the proposed land application scheme.

9. I have read the briefs of all the expert witnesses for the Applicant and have read the s42A officer's report, which I will refer to where applicable. My conclusions on resource management matters draw on this evidence.

10. I have read and considered all submissions.

SCOPE OF EVIDENCE

11. The primary focus of my evidence is on the key statutory planning requirements and planning related matters, including policies and objectives of the relevant planning documents. I draw conclusions in

[1] The consent application and AEE was prepared by Craig Campbell and Sarah Sunich, previously of Mott MacDonald.

relation to relevant statutory provisions including Part 2 of the RMA. For conciseness, I do not repeat all of the RMA planning matters that are outlined in the consent application, AEE and officer's report and focus on the key matters and issues which I consider are in dispute.

12. Specific matters addressed in this evidence are (in the order of the Table of Contents above but summarised below):
    (a) A summary of the project objectives, role of SWDC, proposal and revised staging;
    (b) My approach to the assessment of the effects of the proposal;
    (c) A summary of the key dates and relevant RMA matters;
    (d) A high-level summary of the GWRC officer's report ("officer's report") and summary of my response;
    (e) Relevant rules, activity status and plan weightings;
    (f) Assessment and review of effects on the environment;
    (g) Regional plan assessment, district plan assessment and other relevant statutory considerations;
    (h) Response to submissions;
    (i) Detailed response to officer's report;
    (j) Sensitivity of the receiving environment (s105);
    (k) Availability of alternatives and the BPO (s105);
    (l) Overall assessment of effects (s104);
    (m) Conclusion in relation to Section 104D if relevant
        i. Objectives and policies.
        ii. Effects no more than minor.
    (n) Suitability of proposed term of consent and appropriateness of proposed staging;
    (o) Proposed and new proffered conditions of consent and adaptive management approach; and
    (p) Summary of conclusions.

SUMMARY OF PROPOSAL

13. South Wairarapa District Council ("SWDC") is legally responsible for the operation of wastewater treatment and disposal facilities throughout the District.

14. Currently, **all** of the treated wastewater from the Featherston wastewater treatment plant (FWWTP) is discharged to Donald Creek. The proposal is to discharge the majority of treated wastewater to land instead of Donald Creek through a staged approach (see Table 1 below) The land irrigation scheme, once fully developed, allows for approximately **94%** of the current average annual wastewater discharge volume to be irrigated to land instead of directly discharged to Donald Creek. The discharges at that point (Stage 2B) will only be at high flow, infrequent and of short duration.

15. As discussed in the AEE (page 66) and Mr Allingham's evidence, there are increasing demands and pressures on authorities to decrease the actual and potential effects of wastewater treatment and disposal on the environment, particularly freshwater environments, coupled with the increasing financial pressures on small community ratepayers.

16. SWDC has responded to this challenge by developing a comprehensive long-term integrated strategy for wastewater management in the District. Although in draft, the strategy is focussed on the treatment of wastewater through land, and removal of point source discharges from local rivers and streams, as much as practicable.

17. Mr Mark Allingham has detailed in his evidence the overarching combined wastewater strategy, financial considerations and goal for the district:

"To collect, treat and discharge wastewater from the urban areas of Featherston, Greytown and Martinborough and the coastal settlement of

Lake Ferry so as to provide public health protection with minimal effects on the environment."

18. The proposed activities, receiving environment and their surrounding environment are comprehensively described within the AEE (pages 88 – 132). The specific receiving environments have also been described in the evidence of Ms Beecroft, Ms Hammond, Mr Simpson, Mr Hamill and Mr McBride.

19. The existing FWWTP and its treatment performance is fully described in the AEE (pages 78 – 88) and in further detail in the evidence of Mr Steve Couper. Mr Lawrence Stephenson discusses the operational arm of SWDC, management plan approach and ability to meet the proposed consent conditions.

20. The following key points are noted by way of background and context:
    (a) The existing FWWTP is located approximately 1 km south of Featherston township on land owned by SWDC.
    (b) The existing FWWTP and associated discharge consists of the following key treatment components:
        - Two oxidation treatment ponds operating in series.
        - Treated wastewater is discharged from the outlet of the UV plant, into an open channel which flows directly to Donald Creek.
        - The point of discharge to Donald Creek is located at approximately NZTM 1795280 5443403.
        - There is an emergency discharge flow bypass downstream of Pond 2 and prior to the UV disinfection plant for when there is a major breakdown of the UV unit which requires it to be taken out of service or when the pond is at capacity.
    (c) As presented in the AEE (page 79), the existing treatment ponds at FWWTP receives sewage from the Featherston urban area only. Featherston has an assessed connected population to the wastewater system of 2,253 occupying 996 dwellings. The wastewater flows are predominantly domestic with a small

commercial contribution from local industry. This contribution has been estimated to comprise a maximum of 5% of the total influent.

(d) The theoretical daily dry weather flow from a population of 2,253 is 563 m^3/day (based on 250 litres of wastewater generated per person per day). Inflow data collected from March 2005 to August 2012 shows that the ponds have an average annual daily inflow of 2,721 m^3/day, with a measured peak of 4,669 m^3/day.

(e) When compared with the theoretical daily flow volumes, the actual FWWTP input volumes are clearly very high for the size of the population being served by the plant. The principal cause of these high influent volumes to the plant is from rainfall inflow (otherwise referred to as stormwater) and groundwater infiltrating the sewerage system, termed inflow and infiltration (I&I).

(f) Given this, due to the high I&I in the wastewater influent, significant capital investment in reducing the I&I is proposed. It is important that the I&I improvements are made before the irrigation scheme is fully implemented in order to understand the likely wastewater volumes and subsequent final land irrigation design, deferred storage requirements, land scheme configuration and irrigation methods.

21. The Project has an overarching goal of significantly reducing the volume of wastewater directly discharged to Donald Creek through wastewater network improvements and land treatment. The result, of almost fully removing the direct discharge from Donald Creek by the commencement of stage 2B, with significant reductions from stage 1B, will provide for **significant improvements** in:

    1. water quality in Donald Creek;
    2. protecting aquatic ecology within Donald Creek in particular for significant, sensitive and at-risk species of freshwater clam and mussel and eels;

3. mana whenua / cultural values (as per the intent of the CIA but requires confirmation from mana whenua) such as mauri, wairua and mahinga kai.

22. A staged approach to discharge reductions over time, provides an adaptive approach to monitor and manage environmental effects whilst providing for the scheme to be developed in an affordable and efficient manner (refer to Mr Allingham's evidence). Additional avoidance measures are proffered to satisfy public health and safety concerns raised by submitters and GWRC.

SUMMARY OF THE KEY COMPONENTS AND STAGING PROPOSED

23. The AEE (pages 72-73 and 113-135) set out the staging of the implementation of development of the land irrigation scheme, however that has since been revised[2] as shown in the officer's report and Table 1. The changes are that stage 2A (which provides significant benefits/mitigation) has been advanced from the end of year 10 to the end of year 5. Stage 2B has been advanced from the end of year 20 to the end of year 13. The proposed timings are for final dates and as discussed by Mr Stephenson, the Council may bring forward some of these stages.

24. I note that there is a significant level of improvement by the commencement of stage 1B at the end of year 2 and a further significant improvement at the commencement of stage 2A. This is described in the evidence of Emma Hammond and Keith Hamill. In summary, the majority of the physical environment benefits and mitigation is achieved within the first 5 years of the project and the balance within 13 years of commencement. There will be significant beneficial effects/mitigation of existing effects at or before the end of 2 years.

[2] Refer to Memorandum of Counsel for the Applicant dated 8 November 2018.

Table 1: Revised Frequency of Discharge and Staging

Stage	Description	Original commencement date as per consent application	Revised commencement date as now proposed
1A	Site A irrigation to land (8 hectares)[3]. Installation of new inlet works screen at FWWTP Targeted I&I reduction in sewer network.	2 years after commencement (i.e. within 2 years of consent being granted)	2 years after commencement (i.e. complete within 2 years of consent being granted)
1B	Irrigation to a further 70 ha Site B "Hodder Farm" Total at this stage is (78ha i.e. 1A+1B) Targeted I&I reduction in sewer network.	2 years after commencement (i.e. within 2 years of consent being granted)	2 years after commencement (i.e. complete within 2 years of consent being granted)
2A	Extended irrigation at Site B to up to 116 ha total (i.e. ha+78ha+38ha) Targeted I&I reduction in sewer network.	10 years after commencement	5 years after commencement
2B	Addition of deferred storage pond.	20 years after commencement	13 years after commencement

APPROACH TO THE ASSESSMENT OF THE EFFECTS OF THE PROPOSAL

25. I have provided an overall assessment of effects in the context of the proposal as a discretionary activity, however, as discussed below, the activity status is disputed by GWRC and therefore I have also considered the proposal as if it was for a non-complying activity.

The existing and reasonably foreseeable future environment

26. When assessing the environmental effects of the land treatment component of the proposal, I have considered those effects against the

[3] Not that the Memorandum of Counsel that states that no irrigation of treated wastewater to land will occur during Stage 1A but 8 ha on Site A is likely to be able to be irrigated (deficit). Stage 1A and Stage 1B are to occur within 2 years so can essentially just be considered as Stage 1.

environment as it would be if there was no discharge from FWWTP to land.

27. In my view, that is not a sensible approach when considering Donald Creek and the downstream surface water environment. That is because the *existing* and "*reasonably foreseeable future environment*"[4] will inevitably include discharges from the WWTP. SWDC is under a duty to treat and therefore discharge wastewater from the town. In terms of discharges to Donald Creek, I note that if consent is not granted the discharge will continue unabated for some years. Furthermore, the GWRC officers report (pages 3 and 45) indicates that officers consider that the current discharge is authorised pursuant to section 124 of the RMA. Accordingly, until the 2012 application is determined, the current discharge is also part of the existing lawful environment.

28. On that basis, I have considered the effects of the continued discharge on to Donald Creek during stages 1A and 1B (first 5 years) against the existing and foreseeable environment over that period and the effects of stages 2A and 2B against a theoretical "no discharge" environment. I have also (as a matter of precaution) considered the whole proposal against that a theoretical no discharge environment i.e. the approach adopted in the Officer's Report.

29. When assessing the scale of effects for the purposes of section 104 and 104D of the RMA, I have considered: "*any actual and potential effects on the environment of allowing the activity*"

30. I have taken the *activity* as being the overall activity of discharging contaminants to land, groundwater, surface water and the air during the 35 years for which consent is sought. Accordingly, I have assessed the

[4] "*The 'environment' upon which effects should be assessed is therefore the existing and reasonably foreseeable future environment. In identifying the environment, a council should consider the environment as it is at the time of the application. It should also consider the likelihood of change to that environment in the future, based upon the activities that could be carried out as of right or with respect to resource consents that have been granted (where it is likely that they will be given effect to)." Taken from:* http://www.qualityplanning.org.nz/node/850

effects during particular stages within the context of how long those effects will continue for during the proposed term of consent.

31. In assessing the overall effects on the surface water receiving environment, I have considered the scale of those effects in terms of all of downstream receiving waters including Donald Creek, Otauira Stream and Lake Wairarapa. In considering those environments I have considered the sensitivity of each part of that receiving environment to adverse effects, as required by Section 105 (RMA).

32. In determining the scale of effects (including for the purpose of section 104D RMA if that is found to be applicable) I have considered all dimensions of each effect and in particular:

    a) The magnitude/degree of the effect.
    b) The nature of the effect (including the extent to which a particular effect has consequential effects on other matters.eg the effect of changes in water quality on recreational and aesthetic values).
    c) The extent of the effect within the context of the relevant environment. (e.g. what is the extent of Donald Creek that is affected by conspicuous change to clarity).
    d) The frequency of the effect.
    e) The duration of the effect.
    f) The endurance (or not) of the effect from year to year or stage to stage.

33. I then consider the overall significance of the combined effects of the proposal (including the positive effects) given the matters above and the sensitivity of the receiving environment.

34. I have included in this assessment the benefits or improvements deriving from the project. That is because I consider that for a particular effect, the adverse effects of the proposal are the sum of the residual adverse effects and the positive effects from the proposal.

35. I appreciate that this approach is different from that adopted by in the officer's report. That report seems to have focussed on whether a particular effect (e.g. clarity or change in QMCI) is significant at the time and place when it occurs, in comparison to a "no discharge" scenario. In my opinion for the reasons stated earlier that is unrealistic and also fails to take into account all dimensions of the effect. In my view sustainability is about adopting a wholistic approach rather than a narrow approach.

36. Thus, in relation to Donald Creek and Otauira Stream, I consider that the assessment of effects, including positive effects needs to consider each effect within the context of both streams as a whole, upstream and downstream of the discharge, over a season or year rather than over a week or month. I consider that this approach is appropriate to assessment of whether the discharge is *likely to give rise to significant adverse effects on aquatic life* for the purpose of section 107. In my view it is also appropriate for the S104D and 104 assessments.

37. In reaching an overall conclusion regarding the application, I have also considered the other section 105 matters:

    b) the applicant's reasons for the proposed choice; and

    c) any possible alternative methods of discharge, including discharge into any other receiving environment.

SUMMARY OF KEY MATTERS, ACTIVITIES SINCE LODGEMENT AND STRATEGIC CONSIDERATIONS

38. The officer's report (Section 3.2.1) sets out the RMA process timeline which I agree with. To "set the scene", I also set out below a timeline of the key dates regarding the operative and proposed regional plan dates and relevant RMA matters:

a) The existing FWWTP discharge consents (WAR970080 [30723], [23139] and [20869]) expired in August 2012 and in May 2012 a "replacement" consent application was lodged (refer to AEE, page 86).

b) This application (WAR120294) was lodged (under the operative regional plans) for a high rate treatment plant and full-time discharge to Donald Creek i.e. with no discharge to land (refer to AEE, page 86).

c) In 2014, SWDC purchased land near to the FWWTP, and as a result, the high rate treatment plant consent application was placed on hold to enable the assessment of the feasibility of a treatment system incorporating land application on this newly acquired land.

d) Proposed Natural Resources Regional Plan (PNRP) was notified on 21 July 2015.

e) The latest FWWTP discharge consent application (this proposal) was lodged in February 2017 for a discharge to Donald Creek and to land, under the operative regional plan and PNRP. The proposal for ongoing discharge to Donald Creek was assessed (AEE, page 137) as being for a discretionary activity under both the operative and proposed regional plans.

f) In April 2017, a S92 request for information was received and by November 2017 responses to the information request (and subsequent requests) were provided to GWRC.

g) In January 2018, a PNRP hearings report[5] suggested that existing discharges such as this were new discharges and therefore non-complying activities if the discharge was altered in any way (including improvements).

h) On 16 May 2018 the consent application was publicly notified and there was a 40 working day submissions period ending on 22 July 2018.

[5] See http://pnrp.gw.govt.nz/assets/Uploads/HS4-Officers-s42A-Report-Yvonne-Legarth-Wastewater-to-Water-12-January-2018.pdf

i) On 22 May 2018, GWRC officers indicated that they considered that the consent application (for the discharge to Donald Creek) should be considered as a non-complying activity under the PNRP. SWDC disagreed with this stance and discussions and legal opinions (SWDC and GWRC legal counsel) followed. This activity status issue and whether or not the application meets Policy 71 of the PNRP and S107 (RMA) remain unresolved.

j) Indications from GWRC officers that Section 107 (RMA) and S104D (RMA) was regarded by them as a barrier to granting consent led to two reports being prepared by Mott MacDonald (10 July 2018 and 7 August 2018) that were provided to GWRC which included further assessment on water quality matters. The key parts of these reports are included in my evidence and Ms Hammond and Mr Hamill's evidence.

k) Since May 2018 investigations and expert conferencing has been occurring involving SWDC and GWRC experts. Additional technical work in the ecological, groundwater, public health risk and water quality spheres has been undertaken.

l) Two local community meetings (15 May 2018 and 23 August 2018) between SWDC staff (Mr Stephenson and Mr Allingham), Ms Beecroft and submitters that adjoin the proposed land application area took place. The purpose of the meetings was for SWDC to provide information on the key matters of the proposed activities and to respond to concerns from submitters. A summary of this consultation is covered by Mr Stephenson and Ms Beecroft.

m) In December 2018, it was agreed between the public health experts (see Joint Witness Statement – Groundwater Quality) that norovirus should be used as the indicator for groundwater modelling and public health risk assessment.

n) This conservative approach to this assessment is in part based upon on recent consent decisions[6] and the Havelock North incident[7] (August 2016)[8]. This new approach could be considered a paradigm shift (refer to Mr McBride's evidence) in how public health risk assessments for viruses will be undertaken in New Zealand.

o) On 26 February 2019, Mr Simpson finalised the Groundwater and Modelling Report that was agreed (see Joint Witness Statement – Groundwater Quality) to be completed as the last task and completed this information gathering process. This report was sent to GWRC on 26 February 2019. Due to timing is was not reviewed in time for consideration in the officer's report but forms part of the evidence for this hearing.

p) The key conclusion in the Groundwater and Modelling Report (26 February 2019, Chris Simpson) is that there are nearby shallow bores at risk of causing infection with norovirus, if those bores are used for potable water supply. Mr Simpson's evidence and Mr McBride's evidence recommend that best method to avoid potential adverse effects on these bore users is to provide a safe and secure potable water supply from the Featherston township potable water supply. Proposed conditions on these avoidance measures are presented below.

39. As explained in above, since lodgement of this consent application, the assessment of public health and safety matters and the potential risk of

[6] Omaha Wastewater Treatment Plant Consent Decision, Pers. Comm. Jack Feltham, PDP.
[7] "*In August 2016, there was a major outbreak of campylobacteriosis in Havelock North. In September 2016, the Government established this Inquiry to investigate and report on the outbreak. The Inquiry's report on Stage 1 was issued on 8 May 2017*". *Source: https://www.dia.govt.nz/Report-of-the-Havelock-North-Drinking-Water-Inquiry---Stage-2#Part-1* (accessed 1:19 PM 21/03/2019).

[8] Havelock North Inquiry hearings and reviews, and subsequent three-waters reviews undertaken by Department of Internal Affairs (DIA). *"It identified as the immediate priority detailed policy work on the shape and form of proposed new regulatory arrangements for drinking water and environmental performance of wastewater and stormwater systems. It is expected that Cabinet will consider policy advice and proposals for new regulatory arrangements in June this year."* Source: https://www.dia.govt.nz/Three-waters-review#Prog-Mar (accessed 1:19 PM 21/03/2019).

pathogen contamination has required additional technical work to address concerns and perceived risks related to these matters.

40. In November 2018 I suggested to Ms Arnesen (GWRC) that we should initiate informal caucusing on planning matters as soon as possible to discuss and confirm matters of agreement and any outstanding key issues that require attention. Also, at this time, further refinement of the proposed consent conditions for the Proposal could have be undertaken. However, she indicated that she preferred to await formal caucusing in May 2019. In my view it was unfortunate that pre-s42A officer's report discussion did not occur, as a number of outstanding planning matters could potentially have been refined or agreed. There could also have been a discussion around the proposed conditions which have been available since the application was lodged.

THE OFFICER'S REPORT

41. The officer's report recommends decline based upon the following opinions/conclusions:
    a) *The proposal is a non-complying activity under the Proposed Natural Resources Plan;*
    b) *The proposal is a discretionary activity under the Operative Regional Plans;*
    c) *There are more than minor and significant adverse effects occurring on macroinvertebrate communities in Donald's Creek during various stages of the proposal;*
    d) *There are conspicuous changes in water clarity occurring in Donald's Creek during various stages of the proposal;*
    e) *The proposal is contrary to relevant objectives and policies in both the Operative Regional Plans and the Proposed Natural Resources Plan;*
    f) *The proposal is also inconsistent with the Regional Policy Statement;*

g) *The proposal does not meet Section 107(1)(d) or (g) of the Act for a period of time which I do not consider to be temporary and there are no exceptional circumstances which have been put forward;*

h) *The proposal does not meet either the effects or policy arms of the Section 104D gateway test for non-complying activities;*

i) *There is inadequate information in regard to the discharge to land and effects on groundwater to determine the application in accordance with Section 104(6);*

j) *It is hard to provide a balanced opinion on Part 2 without more information. However, taking a cautious approach, I consider the proposal as it stands does not meets Part 2 of the Act given the level of effects occurring and also the uncertainty surrounding effects.*

42. I agree with the officer's report points 15 'b', 'c' and 'd', albeit that I do not agree that adverse effects remain significant or more than minor beyond year 5. I disagree with points 15 'a', 'e', 'f', 'g', 'I' and 'j' for reasons I will come to.

43. Some of the other key points of the officer's report that I consider important are that:

a. The Project will have positive effects on the environment (pages 13, 23, 33, 39, 40 and 62); In my view those positive effects are significant and over the proposed 35 years of consent, more than eclipse the residual adverse effects which largely occur during the first 5 years.

b. Water quality and aquatic ecology experts all agree (see Joint Witness Statement) after Stage 2B effects will be no more than minor and that during Stage 1B (after year 2 and up to year 5 after commencement of consent) the residual adverse effects on aquatic ecology Donald Creek are more than minor and that they may be potentially significant up to the commencement of stage 2A. Mr

Hamill (refer to evidence page 31) now concludes that *"that from Stage 1B onwards (or at latest from Stage 2A) the discharge will be acceptable and not give rise to significant adverse effects on aquatic life"*.

c. From Stage 2A (year 5 to 13 year) adverse effects, for 2-6 weeks per year, may be more than minor but are *unlikely* to be significant (page 21); whilst I agree that there may be more than minor adverse effects during those 2-6 week periods, I do not agree that those effects are more than minor for the purpose of section 104D when considered in the context of the proposal and the receiving environment as a whole.

d. From Stage 2B (13 years after commencement of consent) the experts agree that the adverse effects on aquatic ecology Donald Creek will be less than minor (officer's report, page 21).

44. The officers report acknowledges that the proposal has positive effects. All of the water quality and aquatic experts agree that there will be significant positive effects during the first 5 years of the consent and that the most significant benefits are derived by the end of year 2.

45. Notwithstanding these benefits, the officer's report concludes that consent should be declined due to the interim short-term adverse effects on Donald Creek and due to uncertainty on health risk effects on groundwater users. For reasons which I will come to, I disagree with the recommendation and the reasoning. In summary, in my view the net effects *of allowing the activity* will overall be positive and the adverse effects are no more than minor when considered over the term of consent and when all dimensions of each effect are properly considered i.e. nature, degree, extent, frequency, duration, endurance.

46. In summary, the principle points of difference between the Applicant and the Officers in terms of approach and conclusions are:

a) Whether the discharge is an existing or new discharge for the purposes of proposed Rule R61 vs Rule R62 and Policy P83.
b) The appropriate "existing and reasonably foreseeable future environment" in the affected surface water during Stages 1A and 1B.
c) Properly taking into account the significant water quality, ecological and cultural benefits during the term of consent.
d) Adopting a holistic approach to the affected environment which has regard to the factors listed in my earlier discussion of my approach.
e) Adopting an assessment which considers the overall proposal (all aspects) over the course of the whole of the proposed term of consent and within the context of the whole receiving environment rather than just Donald Creek.
f) The sensitivity (ecological values) of the Donald Creek.
g) Whether five years of more than minor (but much reduced) and for 2 years significant adverse effects on aquatic life and water clarity and resulting non-compliance with section 107(1) can be authorised under section 107(2) as being *temporary* and/or *exceptional*.
h) Whether the subsequent years of occasional and short-lived non-compliance with water clarity standards during stages 2A and 2B in section 107(2) can be authorised under section 107(2) as being *temporary* or *exceptional*.
i) Whether the effects on surface water and ecology after year 5 are more than minor.
j) Whether the effects of land discharge in terms of health risk for bore users is more than minor.
k) Whether the effects on groundwater mounding are more than minor.
l) Whether there is sufficient information to address the mounding and health risk issues.
m) Whether the overall effects of granting consent, on surface water quality are positive or are adverse and are "more than minor" for the purpose of section 104D (if that provision is applicable).
n) The weight to be given to provisions of the PNRP given that there has been no decision on submissions.

o) The limited availability of alternatives.
p) The adverse effects of declining consent.
q) The overall assessment of whether granting consent for the proposal would achieve the purpose and principles of the RMA.

47. The key points of difference in terms of *effects* relate to points h, i and j. I now deal with each of those in reverse order. I will deal with points of difference regarding plan provisions in a subsequent section.

HEALTH RISK FROM DRINKING GROUNDWATER FROM NEARBY BORES

48. I acknowledge that this issue was not comprehensively addressed in the AEE. As a result of concerns raised by PDP and submitters, there has been considerable further work carried out. This has resulted in the Groundwater Effects Report dated December 2018 (GWS Limited / Mr Chris Simpson which was appended to the Joint Witness Statement (20 December 2018) and the further groundwater modelling report (26 February 2019) undertaken by Mr Simpson and provided to GWRC. The latter report is not reflected in the s42A report because it could not be provided until the day before that report was due. Subsequently, Mr Simpson in his evidence (dated 29 March 2019) has provided updated outputs from his groundwater effects modelling.

49. Mr McBride has addressed the health risk issues and made some recommendations in his evidence. These have been adopted by the Applicant.

50. The Applicant has now proffered the following draft condition[9] (17 of Schedule 4) to address the uncertainty on the health risk effects on groundwater users:

[9] This is a draft high-level condition to show a genuine commitment. The condition will need further refinement through the consent process.

17. Prior to irrigating treated wastewater to land, the consent holder shall offer to provide, potable water supply from the SWDC owned and managed Featherston town supply, to all shallow bore owners identified as being at risk from the discharge in Table 6 (where it is confirmed that a particular bore user is using the bore for potable water supplies). This provision of this supply shall be at no cost to the land owner and shall be implemented prior to commencement of irrigation. There shall be no charge to the landowner for the capital costs of providing this supply and no usage charge for reasonable volumes of potable use consistent with the occupation of property concerned.

51. With this condition I consider the health risk to groundwater receptors will be minimised. If some shallow bore users choose not to connect or accept the potable water supply[10], the risk will remain for them. However, that risk would be a result of their personal choice rather than being a result of the land discharge. I also note that for the reasons explained by Mr McBride, there is an inherent risk in using shallow groundwater bores for potable water supplies. I also note that in the event of an outbreak of norovirus, the Medical Officer of Health may have powers to prohibit the use of shallow bores for potable purposes.

52. I acknowledge that in the future, if a new bore is sunk nearby to the land irrigation treatment scheme once operational (e.g. via a subdivision etc) and that owner sinks a bore then they may also be at risk, so this matter still needs to be addressed (note the mention of a moratorium in the groundwater effects assessment below). Caucusing may help in finding a practical solution.

[10] It is envisaged that a new potable water supply pipeline will be provided as soon as possible however in the interim potable "tankered" water may need to be supplied.

POTENTIAL EFFECTS ON GROUNDWATER MOUNDING

53. Groundwater mounding impacts from the land treatment scheme is covered in Mr Simpson's evidence. Mr Simpson has concluded that the effects of mounding on nearby properties is likely to be less than minor.

THE EFFECT OF ALLOWING CONTINUED DISCHARGE TO DONALD CREEK AT A REDUCING VOLUME, CONTAMINANT LOAD, FREQUENCY AND DURATION

54. This remains the principal point of disagreement between the Applicant and the Regional Council officers. The officers' opinions on this point lead to their conclusions on the section 104D and 107 issues and appear to be the primary basis for the recommendation to decline.

55. Having reviewed and considered all of the relevant evidence and applied the approach set out earlier, my conclusions on this point are as follows:

    a) For the first 5 years of consent (Stages 1A and 1B) allowing the activity will result in a significant net positive effect on water quality, water clarity, aesthetic values and aquatic ecology in the receiving surface waters and the Donald Creek, Otauira Stream and Lake Wairarapa as compared to the existing and reasonably foreseeable future environment over that period. Much of that benefit will be achieved by the end of year 2.
    b) During the first 2 years there will continue to be significant adverse effects on the environment as compared to a theoretical "no discharge" environment, noting that it would be impossible to achieve a no discharge environment.
    c) During Stage 2A (between 5 and 13 years after commencement commencing at the end of year 5) there will be further significant improvement in the Donald Creek in comparison with the existing environment.
    d) If the comparison is made with a "no-discharge" environment, I consider that from Stage 2A onwards the effects are no more than minor.

e) In particular from Stage 2A onwards the water clarity, and ecological effects:
    - Are relatively benign in nature (of no great consequence in terms of aquatic ecology or amenity values).
    - Infrequent and of short duration
    - Affect only a very limited portion of the receiving environment (mainly confined to Donald Creek 100 m downstream of the discharge i.e. the zone of reasonable mixing).
    - Are avoided or reversed at the end of period of discharge
    - Do not endure from season to season or year to year
    - Are largely avoided from the end of year 13.

f) I conclude that within the context of the surface water receiving environment as a whole (the whole of both streams) the net effects of "*any actual and potential effects on the environment of allowing the activity*" during the proposed term of consent will be overwhelmingly positive and that the interim (first 5 years) and residual adverse effects are no more than minor.

56. In my view the officers focus on the adverse effects during the first 5 years, fails to take into account the significant environmental benefits and focusses on effects which are currently occurring and inevitable, but which will be significantly reduced within 2 years, with further significant reductions within 5 years. In my opinion that approach is at odds with Part 2 of the RMA.

57. In terms of the residual effects at stage 2A and 2B, I am of the view that the officers have failed to consider all dimensions of the relevant effects and failed to adopt an overall approach. For example by focussing on the limited times when there will be a conspicuous change to clarity rather than the question of whether that effect is of importance within the context of the proposal and environment as a whole.

Enhancements and modifications to the proposal and key facts

58. Table 1 above shows the proposed revised staging is to bring forward Stage 2A from 10 years after commencement of consent to 5 years after commencement of consent and to bring forward Stage 2B from 20 years after commencement of consent to 13 years after commencement of consent.

59. The primary reason for these amendments to the proposal is, to so far as is reasonably practicable, reduce the duration of stages 1B and 2A during which more than minor adverse ecological impacts will occur for temporary periods.

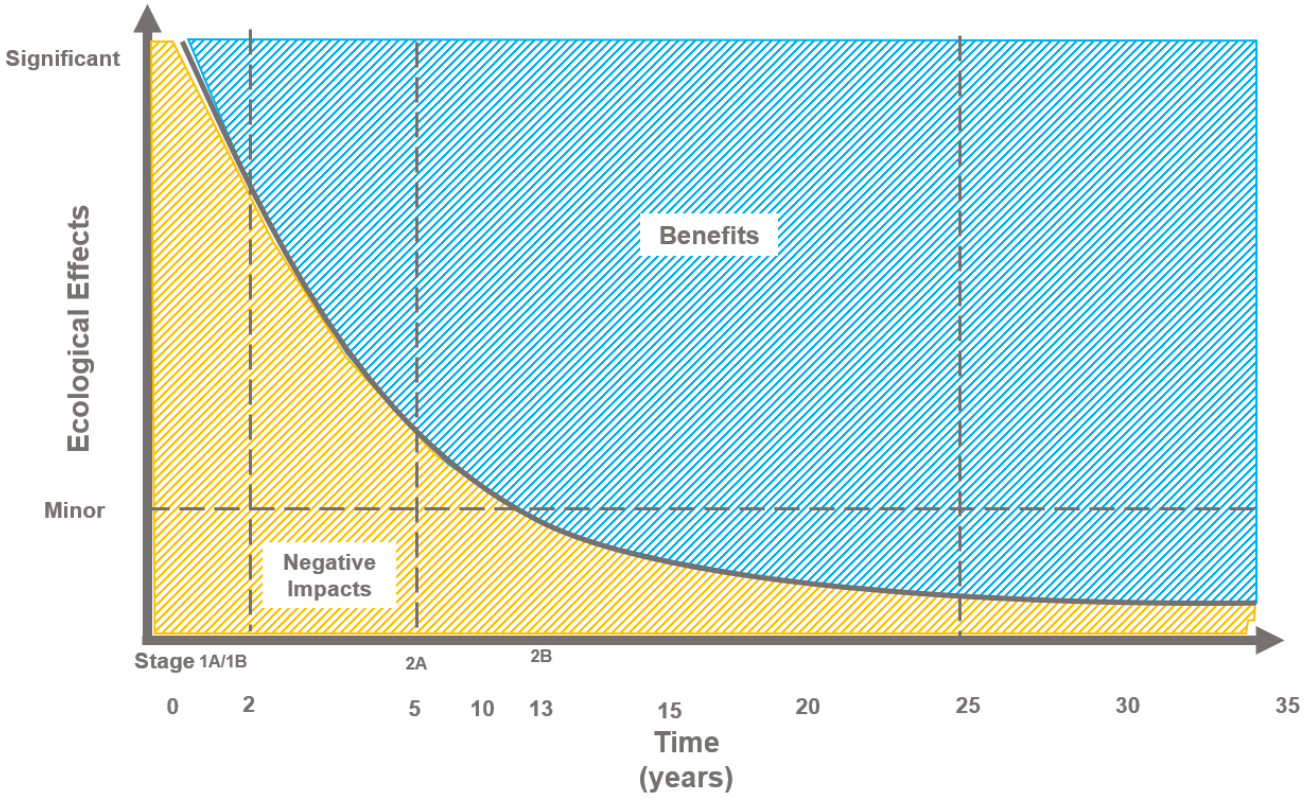
60. Additionally, the change to the timing of stage 2A was to reduce the period of the temporary non-compliance with section 107 in terms of *"conspicuous changes to clarity"* and *"significant adverse effects on aquatic life."*

61. Furthermore, these changes will reduce the cultural impacts of the proposal by bringing forward all stages of land irrigation so as to reduce discharges to freshwater as quickly as is reasonably practicable. It is acknowledged that a residual "winter" treated wastewater discharge to Donald Creek will remain at Stage 2B which will still have residual adverse effects on cultural values. In my opinion, within the context of the proposal as a whole, that residual effect is possibly no more than minor however dialogue with the two submitters in question is required.

Benefits to Donald Creek

62. Based upon the evidence of Mr Hamill, I have summarised ecological effects of the proposal for Donald Creek, in **Figure 1** below:

Figure1: Donald Creek Summary of Overall Ecological Effects



63. As can be seen in Figure 1[11], the Proposal will have long term benefits for Donald Creek which significantly outweigh the short-term adverse effects of the project. The latter are caused by the current discharge which is 100% to water.

64. The change in the timing of the staging does not change the overall approach to the land treatment scheme upgrade. Based on the current performance of the plant; an annual targeted reduction in annual daily flow (ADF) of 35% following the proposed I&I sewer network rehabilitation programme; and the staged implementation of the proposed land treatment scheme; the following treated discharge volumes to water and land have been proposed: (AEE, Table 15, page 128):

[11] Graph is approximate based on Mr Hamill's evidence.

Table 2: Proposed Discharge Volumes to Water and Land

Stage	Discharge volume to Donald Creek		Discharge volume to Land		
	Mean	90%ile	Maximum	Site A Maximum	Site B Maximum
Stage 1	3,300 (m^3/d)	7,700 (m^3/d)			4,950 (m^3/d) 31,640 (m^3/wk)
Stage 2A	1,400 (m^3/d)	5,200 (m^3/d)			
Stage 2B			6,000 (m^3/d)	1,520 (m^3/d) 10,640 (m^3/wk)	7,975 (m^3/d) 50,980 (m^3/wk)

65. A suite of consent conditions is proposed to manage the discharge to Donald Creek and the land treatment scheme in order to minimise effects on the environment. Conditions that seeks to minimise effects on Donald Creek in terms of the volume discharged include the staging condition in Schedule 1 Condition 1 and the following in Schedule 2 Condition 2:

Following confirmation of commencement of Stage 2B Land Discharge in accordance with Schedule 1: Condition 2:
a. There shall be no discharge of treated effluent to Donald Creek during summer months.
b. Discharges of treated effluent to Donald Creek shall not exceed a maximum discharge rate of 6,000 m^3/d or 70 l/s.
c. So far as is reasonably practicable, discharges of treated effluent to Donald Creek shall in order of priority, target discharges when Donald Creek flows are greater than 3x median, and preclude discharges to Donald Creek at flows less than 2x median.
Advice Note 1: Three times and two times median flow will be determined from stream flow monitoring data collected in accordance with Condition 10.

66. The key proposed conditions for the land treatment scheme are condition 2 that sets the maximum hydraulic loading rates and condition 7 that sets buffer distances from property boundaries and other key controls.

67. No significant upgrades to the FWWTP pond system process are proposed. As such, during SWDC proposes consent effluent quality limits that reflect the current plant performance. However, it is important to note that the proposed discharge of treated wastewater to land is a form of treatment and is encouraged by the regional plans. Ms Katie Beecroft discusses the benefits of the land treatment scheme in her evidence.

68. Based on pond capacity modelling undertaken by Mott MacDonald (refer to the AEE, page 128), it has been determined that some changes in wastewater quality concentrations may occur as a result of reduced inflow and infiltration during Stage 1. The potential changes in effluent quality are the function of a range of biological processes that are affected by environmental variables such as temperature, wind and sunlight, and as such are very difficult to determine with any certainty. Therefore, the effluent quality concentrations following the commencement of the I&I works are considered to be conservative estimates[12]. These are presented below in Table 2 (taken from AEE, Table 16, page 129):

69. **Table 2: Proposed Treated Effluent Quality**

Parameter	***E.coli*** **cfu/100mL**		**BOD_5** **mg/L**	**TSS** **mg/L**	**Total N** **mg/L**	**NH_4-N** **mg/L**	**DRP** **mg/L**
Criteria	Discharges < 6,000 m^3/d 5 of 10 consecutive monthly test results shall not exceed	Discharges > 6,000 m^3/d 2 of 10 consecutive monthly test results shall not exceed	in more than 3 out of any 12 consecutive monthly test results the effluent concentration shall not exceed				
Pre I/I works	100	1,400	35	100	15	12	4
Post I/I works	100	1,400	35	100	25	18	6

70. The treated wastewater volumes to be discharged to Donald Creek and resulting water quality is detailed in Mrs Emma Hammonds evidence. The

[12] Please refer to Appendix 2 of the AEE for further discussion on the derivative of proposed effluent quality following I/I works, and further discussion on the effluent quality inputs used in the water quality modelling is described in Appendix 8 section 5.2.3 of the AEE.

treated wastewater irrigation rates to the land treatment scheme and environmental effects are detailed in Ms Katie Beecroft's evidence.

71. In summary, a schematic illustration of the proposed Project upgrades and staging is provided in Annexure 1 (refer AEE, Figure 2, page 72) with the key percentage splits between the discharges to water and land shown in Table 3:

Table 3: Proposed Staging and Treated Wastewater Volumes Discharged to Water and Land (Percentage Comparison)

Stage	Average Annual Volume % Discharged To Donald Creek	Average Annual Volume % Discharged To Land
Current	100%	0%
1 (Year 2 to Year 5)	44%	56%
2A (Year 5 to Year 13)	32%	68%
2B (From year 13)	6%	94%

72. As depicted in **Annexure 1**, the key goal of the Project is to reduce the volume of treated wastewater discharged to Donald Creek. What this means in terms of discharged contaminant load reductions, frequency of the discharge to Donald Creek and Donald Creek receiving water quality improvements is summarised below.

73. Progressive contaminant load reductions to Donald Creek are proposed across the project delivery horizon as summarised as annual averages in Table 4.

Table 4: Proposed reduction in treated effluent loads to Donald Creek from FWWTP (tonnes/year)

Parameter	Current	Stage 1A	Stage 1B	Stage 2A	Stage 2B
BOD	12.6	12.1	6.7	3.8	0.76
TSS	1.4	1.3	0.64	0.56	0.11
Total nitrogen	7.1	6.9	4.1	3.8	1.5
Ammoniacal nitrogen	3.9	3.8	2.3	2.0	0.4
Total phosphorus	1.4	1.3	0.6	0.6	0.1

Dissolved reactive phosphorus	1.0	1.0	0.5	0.4	0.1

Source: Supplementary Report (Mott MacDonald, 10 July 2018) based on Tables 1 and 30, AEE. Mott MacDonald (2017).

74. Under the current discharge regime, FWWTP discharges 99% of the time[13] with the discharge occurring 13% of the time above 3x median flow and 24% above 2x median flow. At Stage 1B the frequency of discharge to the Creek reduces to 51% of the time with discharges occurring above 3x median flow 25% of the time and 46% of the time above 2x median flow. By Stage 2B, FWWTP discharges to the Creek less than 4% of the time, with 75% of these discharges occurring while the Creek is above 3x median flow, and 90% occurring when the Creek is above 2x median flow. (Mr Hamill addresses the corresponding implications in terms of discharge relative to dilution.)

75. The proposed reductions in treated effluent discharges to Donald Creek are summarised in Table 5 represented across the various river flow bands.

Table 5: Proposed reduction in frequency of treated effluent discharged to Donald Creek

Donald Creek Flow Band	Current	Stage 1A	Stage 1B	Stage 2A	Stage 2B
< 0.5 x median	27%	20%	1.8%	1.0%	0.0%
0.5 x to 1 x median	22%	20%	6.1%	3.6%	0.0%
1 x median to 2 x median	26%	25%	19%	14%	0.3%
2 x median to 3 x median	11%	11%	11%	9.4%	0.7%
>3 x median	13%	13%	13%	13%	2.7%
Total	**99%**	**90%**	**51%**	**40%**	**3.7%**

Source: Table 21 - AEE, Mott MacDonald (2017).

76. Reductions in treated effluent discharges have been designed to initially target summer low flows (typically below median) where there is currently the greatest impact owing to the lack of available dilution. By

[13] Current discharges are estimated across an 11-year record, Mar-2005 - May-2016, and shows that there were 49 days with no discharge to Donald Creek.

stage 2B, no discharges to Donald Creek are expected at times below median flow, leading to significant improvements in receiving water quality.

77. Table 6 below shows a comparison of the current consent and proposed consent key limits for the discharge to Donald Creek activity.

Table 6: Summary of Key limits for Current vs Proposed Consent for Discharge to Donald Creek

Parameter	Current consent maximum limits	Proposed Stage 1 - Pre-I&I (75%ile)	Proposed Stage 2 - Post-I&I (75%ile)
Maximum Discharge Volume (m^3/day)	9,000		6,000^
Biochemical oxygen demand (BOD_5)	40	35	35
Total suspended solids (TSS)	175	100	100
Total nitrogen (TN)	25	15	25
Ammoniacal nitrogen	18	12	18
Dissolved reactive phosphorus (DRP)	8	4	6
Escherichia coli (*E.coli*)*	100,000	100 / 1,400	100 / 1,400

Note: *50%ile / 80%ile. ^Maximum.

PLANNING CONTEXT

78. There are several relevant regional plans and the district plan which must be considered in determining the application. These have been assessed discussed and applied in the AEE (pages 136 – 168). Key planning matters are summarised below.

Relevant Regional Plan and Weightings and Timing, and the Relevant District Plan

79. The relevant "regional" plans to be considered include:

a) The Operative Regional Freshwater Plan ('Freshwater Plan') as updated at July 2014.

b) The Operative Regional Plan for Discharges to Land ('Discharges to Land Plan') 1999.

c) The Operative Regional Air Quality Management Plan ('Air Plan') 2000.

d) The Proposed Natural Resources Plan ('PNRP') as notified at July 2015.

80. As outlined in the officer's report, "*the PNRP was publicly notified by the Greater Wellington Regional Council on 31 July 2015 and took immediate legal effect from this date under section 86B(3) of the Act. Therefore, an assessment of the relevant objectives and policies in this planning document is required for this application.*"

81. I agree with that the provisions took effect, however the statement does not address weight. My understanding is that planning provisions can be accorded only modest weight prior to decisions on submissions and full weight only once any appeals have been determined. Submissions on the PNRP have been received and hearings have taken place, however a recommendation from the Panel is yet to be made.[14] Many of the key provisions of the PNRP are the subject of submissions seeking changes or deletion.

82. The provisions of the PNRP are proposed provisions and cannot be accorded any significant weight. The weight to be accorded these provisions will increase once the PNRP Panel has released its recommendations. However, any provisions which are appealed cannot be afforded full weight until the appeals have been determined. As I understand it, the officer's recommendations to the Panel as reflected in the revision marked version of the PNRP have no force. They do however provide an indication of possible change of direction.

83. It is important to note that SWDC, Masterton District Council and Wellington Water Limited have submitted in opposition to parts of[15] the

[14] The Panel was due to make its recommendations by the end of 2018, but that timing has been extended by the Regional Council with a report now due by July 2019 http://pnrp.gw.govt.nz/.

[15] See submissions:

PNRP in its current form particularly on the objectives O25 and O50 and policies P70, P71 and P83 and Rule R62. The SWDC has made a detailed submission on these provisions to the Panel last year.

84. As detailed in those submissions, there are significant consenting challenges and cost implications that local authorities and three-waters utilities in the Wellington Region will need to deal with should the PNRP be made operative based on the notified version.

85. The Wairarapa Combined District Plan ('WCDP') Updated Version Operative in Part 25 May 2011, is also relevant, which I discuss below.

S124 (RMA), Relevant rules and activity status

86. As detailed in Sections 1.3 to 1.5 of the AEE for the lodged consent application, and the officer's report (Section 3.2.1) the FWWTP is operated under existing resource consent WAR970080. These current consents were varied with an effective date of 25 August 2009 and expired on 25 August 2012.

87. SWDC requested GWRC to apply Section 124(2)(e) and Section 37 of the RMA to enable ongoing operation under the existing consent. GWRC has accepted this request, and the FWWTP can therefore operate lawfully under the existing consent until the initial replacement consent application is determined.

88. Based on my analysis of the aforementioned Plans, the proposal requires the following resource consents:

"HS4 S367": http://pnrp.gw.govt.nz/assets/Uploads/HS4-S367-Masterton-District-Council-and-S366-South-Wairarapa-District-Council-Pauline-Whitney-Expert-Evidence-26-January-2018.pdf
"HS4 S135": http://pnrp.gw.govt.nz/assets/Uploads/HS4-S135-Wellington-Water-Ltd-Carolyn-Wratt-Expert-evidence-26-January-2018.pdf
"HS4 S135": http://pnrp.gw.govt.nz/assets/Uploads/HS4-S135-Wellington-Water-Ltd-Stewart-McKenzie-Expert-Evidence-26-January-2018.pdf

a. Discharge of a contaminants to water for the discharge of treated effluent to Donald's Creek pursuant to section 15(1)(a) of the RMA, Rule 5 (**Discretionary Activity**) of the Regional Freshwater Plan for the Wellington Region and Rule 61 (**Discretionary Activity**) of the PNRP;

b. Discharge of contaminants to land (that may enter water) through the base and sides of the unlined treatment ponds (seepage) and the discharge channel pursuant to section 15(1)(b) of the RMA, Rule 8 (**Discretionary Activity**) of the Regional Plan for Discharges to Land and Rule 93 (**Discretionary Activity**) of the PNRP;

c. Discharge of a contaminants to land and water for the discharge of treated effluent to land (via irrigation) which may enter water, in terms of section 15(1)(b) of the RMA, Rule 8 (**Discretionary Activity**) of the Regional Plan for Discharges to Land and Rule 80 (**Restricted Discretionary Activity**) of the PNRP; and,

d. Discharge of contaminants to air (odour) pursuant to section 15(2A) of the RMA, Rule 23 (**Discretionary Activity**) of the Regional Air Quality Management Plan and Rule 41 (**Discretionary Activity**) of the PNRP.

89. As stated in the officer's report, the officers consider the proposed discharge to Donald Creek (and therefore the overall proposal) to be a **non-complying activity** under **Rule R62** the PNRP.

90. The discharge to water component of the lodged consent application, was assessed as a **Discretionary Activity** because the proposed discharge to water was for the upgrade of an existing discharge and was therefore considered to be "an existing discharge" under the provisions of the PNRP. On that basis the planner who prepared the AEE concluded that the application was covered by Rule R61 rather than Rule R62. I concur with that view for the reasons set out below, nevertheless as a matter of precaution, I also consider the proposal against the PNRP non-complying activity Rule R62.

Is the discharge a new or existing discharge for the purpose of rules R61 and R62 and Policy P83?

91. The notified definitions of the "new discharge" and "existing discharge" are as discussed in the following paragraphs. I accept that if literal interpretation of these definitions is adopted, the discharge would be new discharge because it will be "altered" because rates, volumes, loads frequency and duration will all decrease. In my view treating the upgrade of an existing discharge as a new discharge would be an absurd result which cannot have been intended. It is a result which does not seem to have been discussed and assessed in the Section 32 report in support of the PNRP.

92. In my opinion the proposed discharge is an *existing discharge* because:

a) The discharge is existing and is being managed under an existing consent with s124 rights.
b) The discharge point is not changing and the definition is not concerned with the new discharge to land.
c) It is the same influent that derives from the same town catchment and remains of the same quality at least for stage 1. (See Table 6)
d) There have been no new industrial trade waste inputs since the previous consent was granted.
e) The proposed wastewater treatment process of the wastewater influent and the nature and quality of the discharge to the stream is the same as the current activity (the changes relate to reductions in frequency and duration of discharges).
f) The discharge to water over the first 2 years will remain much the same as the existing discharge.
g) The discharge from stage 1B onwards will result in decreased volumes and contaminant loads to the stream, decreased frequencies and durations of discharge to the stream and resultant decreased effects on the stream and downstream waters.

h) In my opinion, it would be absurd to regard an improved discharge as being a new discharge. For example, that would mean that any application for an upgrade/improvement of any existing discharge of wastewater, would treated as a new discharge and would become a non-complying activity and would need to be avoided under Policy P83.[16]

93. Legal Counsel for the Applicant will address interpretation issues in more detail. It is my understanding however, that a "purposive" interpretation based upon Part 2 of the RMA is appropriate where a literal interpretation would result in an absurdity. In my opinion the literal interpretation advanced in the officer's report would result in an outcome which is inconsistent with Part 2. That is because it would in effect it would prohibit wastewater upgrades in the scenario where existing adverse effects are more than minor and plan objectives and policies cannot be met (e.g. Policy P83 PNRP).

94. As shown in my timeline above, I also note that the PNRP non-complying activity status matter was never raised during the pre-application, Section 88 (RMA), Section 92 (RMA) steps or the discussions which were had prior to public notification by GWRC.

The Existing Environment and the Permitted Baseline

95. The two key receiving environments are those of water and land: Donald Creek and the land treatment scheme underlying land, and current activities on/in these environments.

96. In regard to the proposed land treatment scheme, the site is located approximately 1.5km from Featherston township. It is bisected by

[16] As outlined above the problems created by this definition have were acknowledged by GWRC to the PNRP panel with a resulting recommendation for changes. See: http://pnrp.gw.govt.nz/assets/Uploads/HS4-Officers-s42A-Report-Yvonne-Legarth-Wastewater-to-Water-12-January-2018.pdf

Murphy's Line and Longwood Road West. A number of watercourses pass through the property including the Longwood Water Race system, Torohanga Creek which flows into Donald Creek[17] and subsequently Abbot Creek[18] (henceforth referred to as Otauira Stream – refer to evidence later on and Keith Hamill's evidence) before flowing into Lake Wairarapa approximately 5km to the south from the FWWTP discharge point.

97. There has been no continuous flow monitoring undertaken in Donald Creek catchment. However, SWDC have been monitoring Donald Creek flows on a regular basis as part of its FWWTP consenting requirements. In addition, a temporary flow monitoring site was established upstream of the discharge point in February 2016 and a number of readings were taken to calibrate the temporary gauge (PGWES, 2016b – see Appendix 6B). Analysis of flow monitoring results from February 2010 until June 2016 are summarised below in Table 7 (taken from AEE, Table 7, page 99).

98. **Table 7: Flow records upstream and downstream of the treated discharge point in Donald Creek**

	Flow 20m US (l/s)	Flow 100m DS (l/s)	Change in flow between US and DS (l/s)
Minimum	15	26.6	4
1/2 Median	80.5	98	
Median	161	196	13
Average	218	301	27
Maximum	757	847	109
Count	37	23	23

99. Table 7 shows that Donald Creek does not appear to go dry. Table 8 in the AEE (page 99) shows the monthly Donald Creek flow statistics that indicate that flows in the winter months are typically significantly higher than the summer months hence the Project targets the removal of the

[17] Also referred to as Boar Creek.
[18] Also referred to as Otauira Stream.

discharge to Donald Creek during the summer with a residual discharge during winter.

100. As discussed in the Joint Witness Statement (Aquatic Ecology[19]) Donald Creek water quality and aquatic ecology is already compromised. Upstream of the current FWWTP discharge, the MCI scores are already highly impacted from current land use activities in the catchment and even if Stage 2B Dr Ausseil has stated that the MCI score of 120 is *"not met upstream or downstream (but effect of the discharge minor)"*. Water quality sampling results upstream in Donald Creek show high nitrate concentrations. Much of these MCI scores and elevated nitrates in Donald Creek which are related to permitted activities such as pastoral farming with stock grazing animals (refer to Mr Hamill's and Ms Hammond's evidence and the AEE).

101. According to a submitter[20] urban stormwater runoff is also likely to be a contributing factor to current water quality issues in Donald Creek upstream of the current discharge.

102. "Site A", comprises a 12.6ha block of land owned by SWDC located between the FWWTP and Longwood West Road. "Site B", is used to describe the recently purchased land also known as Hodder Farm[21], which comprises of 166ha including 3.6ha of covenanted QEII Open Space.

103. Site A is currently grazed by dry stock whilst Site B is currently used for dairy production and arable cropping. These activities are permitted under the regional plans.

104. The AEE (page 124) concluded that a post development increase in nitrogen leaching load of 7% when compared to the existing land use and

[19] Also abbreviated to JWSAQ.
[20] Sustainable Wairarapa.
[21] Hodder Farm previously had consent WAR110081 to discharge dairy shed effluent to land via spray irrigation was granted in 2010 and expires in 2020 it is understood the consent was surrendered after the sale of the farm.

farm management. So, compared to the permitted baseline of effects, the difference in leaching effects expected from the land treatment component of the Project is small.

105. Mr McBride and Mr Simpson has also highlighted in their evidence that the current dairy farm practices and permitted activities on Hodder Farm would already carry some risk of campylobacteria infection to downgradient groundwater users.

106. The purpose of the permitted baseline test is to separate the effects of activities on the environment that are permitted by the plan or NES, from the effects of "non-permitted" or "consented" activities. When applying the permitted baseline such effects cannot then be taken into account when assessing the effects of a particular resource consent application. This assessment was not undertaken in the AEE nor was it considered in the officer's report.

107. The permitted baseline has been defined by case law as comprising non-fanciful (credible) activities that would be permitted as of right by the plans in question. I have attempted to outline this above based on the limited information at hand, and not necessarily to strictly apply the permitted baseline test, but to provide context i.e. the Project seeks to improve Donald Creek and effects are occurring on the current receiving environments through permitted activities.

108. I note that a permitted baseline analysis and an analysis of the receiving environment are two different assessments. The receiving environment is the environment upon which a proposed activity might have effects. What is evident is that the *existing environment* is already compromised by a range of activities in the catchment and also the current FWWTP discharge to Donald Creek.

109. If consent is declined the current discharge will continue unabated until a replacement application is made, granted and implemented. Mr Allingham estimates that process might take might take up to 7 years. Clearly, it would be impossible to avoid the discharge to the stream until a full land treatment plant and storage is in place and that would take some considerable time.

Positive Effects

110. The Project as proposed will have a number of positive effects on the receiving environment. These have been described in the AEE (section 6.1), and have been recognised in some submissions, in the officer's report and in this evidence above.

111. In particular the project will progressively reduce the adverse water quality impacts of the discharge and improve the ecological condition of Donald Creek. This will also result in substantial mitigation of cultural impacts on the stream and the ultimate receiving environment: Lake Wairarapa.

112. The principles of the SWDC wastewater strategy in moving to land based treatment for the South Wairarapa District are supported in some submissions, acknowledging the environmental and cultural benefits of a transition to land treatment.

113. SWDC and the urban Featherston community rely on the wastewater treatment and disposal system to function sustainably and to maintain public health standards. An inability to lawfully continue to operate the wastewater system would have significant consequences on the wellbeing of the community, and on their health and safety. This is recognised in the Regional Policy Statement with the inclusion of the Plant as "regionally significant infrastructure".

Actual and Potential Adverse Effects of the Proposal

114. The existing environment of Donald Creek and the land scheme in question and permitted baseline effects of activities in the and the current dairy farm versus the proposed activities is outlined above.

115. I consider that the permitted baseline test and consideration of the existing environment is especially relevant and important to the Proposal. The officer's report does not appear to consider the permitted baseline (both based on the operative plans and PNRP) nor does it recognise that the current discharge to water forms part of the existing environment.

116. The officer's report (pages 21 and 22) sets out the officers' summary of effects. I generally agree with the summary except for:

    A. *"During Stage 1B (after year 2 and up to year 5) changes in water clarity are predicted to occur one third of the time (75 days per year) and on these days the discharge will result in a conspicuous change in water clarity and will not meet Section 107(1)(d)".* Clarity in Donald Creek may be affected for up to 75 days per year, the actual number of days is not able to be exactly quantified but the 75 days is a conservative estimate. Also, 75 days out of 365 days is not one third of the year but about one fifth of the year. During Stage 1B the P71 guideline (for stream flows less than median flow) will only be breached for around 8% of the time or 29 days (Emma Hammond evidence page 15).

    B. *"During Stage 1B (after year 2 and up to year 5) ecological effects may not occur during the summer but adverse effects on periphyton and macroinvertebrates cannot be discounted during the remainder of the year. During this time the effects on aquatic life will be more than minor in the opinion of Dr Ausseil and possibly significantly adverse for 4-6 weeks per year (2-3 weeks in*

spring and 2-3 weeks in autumn), therefore breaching 107(1)(g) at those times". The AQJWS has not considered the autumn 2018 stream survey which is provided in Mr Hamill's evidence that suggests that after Stage 1B, the adverse effects on periphyton and macroinvertebrates are unlikely to be significant and overall the effects will be minor (refer to Table 4, page 27 of Mr Hamill's evidence).

C. *"During Stage 2A (after year 5 and to year 13) there **will be** a conspicuous change in water clarity for 42 days per year and more than minor effects (but not significant) on macroinvertebrate communities at certain times"*. As above, the clarity breaches are a conservative estimate and are not definitive, therefore it is more appropriate to assume that clarity in Donald Creek **may be** affected for up to 42 days per year as per Dr Ausseil's assessment. There is no evidence that these water clarity breaches are having any more than minor adverse effects on the environment. In my opinion, a conspicuous change to clarity does not <u>of itself</u> amount to a more than minor or significant adverse effect on the environment. The position would be different if the changes to clarity were causing adverse effects on ecology, recreation values or aesthetic values. That is not the case here.

D. *"According to the PDP report, there are potentially more than minor effects occurring on neighbouring properties as a result of groundwater mounding"*. Since the time of preparing the officer's report, Mr Simpson has provided further assessment on mounding (refer to evidence) which concludes that the adverse effects of groundwater mounding beyond the FWWTP scheme is expected to be less than minor.

E. *"There are more than minor recreational effects occurring from the reduced visual clarity of the proposal, however the effects*

from cyanobacteria and E.coli [sic] on recreational effects are no more than minor". I disagree with this statement as there is no evidence of any adverse effects on recreation. Donald Creek is not known for recreational fishing or contact recreation and access is limited. The clarity impacts reduce downstream after the Longwood Water Race. Clarity will be improved significantly from Stage 1B and again at Stages 2A and 2B. From Stage 2A (30 years of the proposed 35 year consent) the clarity guidelines are rarely breached. I elaborate on the potential recreational effects of the Project later in this evidence.

SUMMARY OF ADVERSE EFFECTS

117. A summary of the key effects of the Proposal is set out in **Table 8** below.

Table 8: Summary of Key Actual and Potential Adverse Effects

Wellbeing	Current	Stage 1A	Stage 1B	Stage 2A	Stage 2B	Source
Air, Odour and Aerosols from treatment ponds and discharge to land	No more than minor	No more than minor	No more than minor	No more than minor	No more than minor	1, 2 & 3.
Effects on Land, Soil and Vegetation	Nil / N/A	No more than minor	No more than minor	No more than minor	No more than minor	1, 2 & 3.
Donald Creek Visual Clarity and Recreation	Moderate to potentially significant	Moderate to potentially significant	No more than minor	Less than minor to minor	Less than minor	4 & this evidence
Donald Creek Aquatic Ecology	Significant	Significant / potentially significant	Minor to moderate^ ^ at times but not significant ^^^	No more than minor	Minor to Less than minor	6
Lake Wairarapa Water Quality	No more than minor	No more than minor	No more than minor	Less than minor	Less than minor	4,5,6

Lake Wairarapa Aquatic Ecology	No more than minor	No more than minor	No more than minor	Less than minor	Less than minor	4,5, 6
Cultural / Mana Whenua Values	Potentially significant	Potentially significant	Potentially significant	Likely no more than minor	Likely no more than minor	CIA, submissions #76 and #60, 8
Groundwater Quality (Nutrients)	Nil / NA	No more than minor	No more than minor	No more than minor	No more than minor	1, 7,8
Groundwater Public Health (Bacteria)	Nil / NA	No more than minor	No more than minor	No more than minor	No more than minor	1,7,8
Groundwater Public Health (Viruses)	Nil / NA	No more than minor* as effects can be mitigated	No more than minor* as effects can be mitigated	No more than minor* as effects can be mitigated	No more than minor* as effects can be mitigated	1,7,8

Table Sources of Evidence: 1: Ms Beecroft 2: Mr Stephenson 3: Mr Couper 4: Ms Hammond 5: Mr Hamill 6: Dr Ausseil 7: Mr Simpson 8: Mr McBride. Notes: NA = non-applicable. ^I note that generally Mana Whenua are the most suited for assessing actual and potential effects.

* Avoidance/mitigation measures proposed so effects considered as negated so long as bore owners take up the proffered condition 17 (Schedule 4). ^^Hamill (page 27 evidence): *"Moderate effect on invertebrate composition for short duration during autumn. Overall minor"*. ^^^ *Hamill (page 89 evidence): "In terms of section 107 of the RMA, I am of the view that from Stage 1B onwards (or at latest from Stage 2A) the discharge will be acceptable and not give rise to significant adverse effects on aquatic life."*

118. As shown in Table 8, all adverse effects on the environment are likely to be no more than minor by Stage 2A. The caveats and assumptions being that the risk regarding viruses on groundwater used for potable water can be avoided/mitigated if the alternative water supply is up taken by those people potentially affected; and there is still the possibility that cultural effects might be considered to be more than minor due to the winter residual discharge to water (This requires further dialogue with submitters);

119. In my opinion the effects at Stages 1A and 1B can be regarded as positive in comparison to the existing and reasonably foreseeable future

environments. Alternatively, in my view those temporary (and inevitable) effects during the first 5 years are "no more than minor" within the context of the proposal and environment as a whole.

120. The receiving environments which may be affected by the proposed land treatment scheme and discharge to land discharge are:

    a. air;

    b. the soil and plants in the rooting zone and unsaturated zone of the soil;

    c. shallow groundwater; and

    d. surface water (Donald Creek and Otauira Creek and further afield potentially Lake Wairarapa).

121. The receiving environments which may be affected by the proposed discharge to water are:

    a) Donald Creek;

    b) Otauira Creek; and

    c) Lake Wairarapa.

Effects on Air

122. The officer's report (page 42) states *"In conclusion, subject to further information being provided by the applicant about wind direction and speed, then the effects on the environment from potential discharge to air would be no more than minor."*

123. As discussed in Ms Beecroft's evidence, the two aspects of air quality that need to be managed are odour and spray drift and a number of submitters have raised concerns that the proposed land treatment irrigation scheme will cause effects on their properties and water supplies and raised concerns over errors in the AEE and the wind data used. Ms Beecroft has considered these matters in her evidence and provided an update to her assessment. I do not repeat this assessment here in any detail but focus

on the key effects and overarching controls that will manage these effects. In summary, Ms Beecroft considers the adverse effects of odour and spray drift on neighbouring properties and beyond is considered no more than minor. I concur with this assessment.

124. Odour effects will be addressed through a performance standard prohibiting any offensive or objectionable odour at or beyond the property boundary. This will be achieved through standard discharge system management tools, including:

    a. The use of buffer zones;

    b. Management of the rate and frequency of wastewater discharge;

    c. Wind activated shut down controls;

    d. The pre-treatment (low organic strength) of the wastewater; and

    e. Flushing of pipelines with clean water if and when needed.

125. Spray drift is proposed to be avoided by:

    a. The use of buffer zones;

    b. Selection of system pressure and nozzle size to produce a nominal droplet size of 200 µm to avoid the production of aerosols; and

    c. Wind speed recording and automatic shut-off of irrigation to limit the impact on downwind receptors.

126. Buffer distances to avoid effects from spray irrigation to receptors have been adopted from information produced for the combined Wairarapa Plan Change 3 process.

127. As discussed by Mr Stephenson in his evidence, these methods and controls have been adopted at the SWDC owned and managed Greytown and Martinborough land treatment schemes which have been operating for the past few years with no major issues.

128. Mr McBride has provided a qualitative public health risk assessment for water supplies based on Ms Beecroft's evidence. Based on their evidence and the proposed conditions, I am confident that the actual and potential effects of odour and spray drift will be less than minor and can be adequately managed.

Effects on Land, Soil and Vegetation and Contribution to Groundwater

129. The effects of the discharge to land were assessed by LEI and reported in Appendix 8 of the consent application and in Ms Beecroft's evidence. These effects were also considered through the expert caucusing and Joint Witness Statement (Groundwater Quality) as the discharge to land will leach contaminants to groundwater and mounding of groundwater is related to the lay of the land and how the irrigation scheme is to be operated. Thus, the two matters are interrelated.

130. As discussed in Ms Beecroft's evidence and the AEE, the proposed land treatment scheme will be operated as a deficit irrigation regime at Site A and non-deficit irrigation regime at Site B.

131. Key wastewater parameters that may have an effect on receiving environments are nutrients (specifically nitrogen and phosphorus), organic material (measured by biochemical oxygen demand, BOD), pathogens (such as *E.coli* and norovirus) and the water component. The water component creates a potential for groundwater mounding which could (if not controlled) affect drainage on adjoining properties.

132. The proposed irrigation and nutrient application rates are conservative and will not result in effects that are any greater than current observed farming practices in the general area with up to only 7% more leaching of nitrogen and phosphorus compared to the current farm. The result of this leaching in terms of effects on groundwater and surface water (as

covered by Mr Simpson and Ms Hammond) are likely to be no more than minor.

133. Ms Beecroft concludes that the effects of organic material on soil and vegetation are also likely to be no more than minor due to the proposed application rates and irrigation rotation regime.

134. In terms of the effects of pathogens, the levels of bacteria (measured as *E.coli*) discharged to land and the resulting effects on land and groundwater and sensitive receptors (see Mr Simpson's and Mr McBride's evidence) are likely to be no more than minor. The exception to the ambit of effects and pathogens being that there may be viruses in the wastewater leached to groundwater and this poses a risk to downgradient groundwater receptors for potable use for humans (Mr Simpson and Mr McBride have dealt with this issue).

135. A robust, technically based land treatment system can be developed to acknowledge site limitations and minimise offsite effects for each of the stages.

136. Where uncertainty over a design or contaminant parameter exists, the adoption of a worst-case scenario for that parameter assists to provide certainty that the effects identified can be achieved.

137. The proposed conditions and adaptive management provide a sound and usual approach to managing residual uncertainties. The proposed approach is the same as was proposed and adopted for Greytown and Martinborough and is similar to Carterton and Masterton, all of which have recently been granted consent.

138. With the exception of the risk of viruses to shallow groundwater bores used for potable water, Ms Beecroft concludes that the adverse effects from the land treatment of wastewater from FWWTP are likely to be no more than minor. I agree with this assessment.

Environmental – Groundwater

Effects on Groundwater Mounding

139. As discussed in Mr Simpson's evidence, mounding of the water table surface can result in increased hydraulic gradients within and surrounding the irrigation areas and this can affect flow paths to the receiving environment. Further, if excess mounding occurs, such that the water table reaches the land surface (i.e. fully saturated conditions), then surface ponding and run-off (break out) of the irrigated wastewater can occur. This is an undesirable effect as there would be limited land treatment of the wastewater before entering surface waters. This degree of saturation would also limit the ability to apply wastewater to land, resulting in a loss of treatment capacity for the scheme.

140. Mr Simpson has modelled groundwater levels against the proposed land treatment discharge regime. The modelling results show that that groundwater levels within some areas within the Scheme footprint require management that can be manged via the proposed consent conditions (e.g. no ponding and buffers).

141. The groundwater modelling shows that impact on groundwater levels in the area form the proposed wastewater irrigation land treatment scheme will be minimal and can be managed via the proposed conditions. Overall the adverse effects on mounding on other properties is likely to be less than minor.

Effects on Groundwater Quality - Nutrients

142. Overseer modelling shows that some nitrogen and phosphorus will be introduced into the unconfined aquifer system. The pathways for nutrients to enter surface water is via the surface water bodies and drainage network that may intercept shallow groundwater.

143. The potential leaching of phosphorus will be minimal and monitoring of phosphorus in groundwater will be developed through the proposed Environmental Monitoring Plan. The AEE (see LEI report, Appendix 7) concluded that the effects of phosphorus leaching on groundwater is expected to be less than minor.

144. The average aquifer concentration of nitrogen after mixing is dependent on the initial wastewater concentration assumed and the background concentrations already present in the shallow groundwater system. The groundwater effects assessment has shown that the discharge from the irrigation areas would not result in concentrations of nitrate in the aquifer in excess of Ministry of Health (MoH, 2008) drinking water standards (11.3 mg/L). The actual and potential adverse effects of nitrogen in groundwater from the proposed scheme are considered less than minor.

145. Ongoing monitoring of shallow groundwater quality will be undertaken as part of the consent conditions that requires the development of a groundwater monitoring and management plan. This monitoring will assist in validating the effects assessment undertaken as well as providing an early indication of changes (if any) to groundwater quality beyond those predicted and will allow adjustments to the irrigation management to reduce off site impacts if that is required.

146. An alternative supply of potable water for all shallow bores which are being used to provide potable water has been offered as an avoidance measure due to viral risk (see below). This means that issues associated with human health arising from nitrate levels in water are not of concern provided that the bore owners accept the alternative water supply offer.

147. Overall it is considered that the leaching of nutrients proposed land treatment scheme is likely to have less than minor adverse effects on groundwater.

Pathogen Risk on Groundwater Users

148. As discussed in Mr Simpson's and Mr McBride's evidence, the risk of infection to groundwater receptors from bacteria (using *E.coli* as an indicator) within the treated wastewater migrates to groundwater from the discharge to land is likely to be low and the adverse effects on groundwater receptors are likely to be less than minor. I agree with this assessment.

149. Mr Simpson (refer to evidence) has estimated that seventeen bores are at risk from viral infection for the proposed discharge to land (refer to Figure 10 of his evidence). However, the risk from infection to groundwater receptors from viruses (based on norovirus as an indicator) within the treated wastewater migrates to groundwater from the discharge to land, is considered more than minor and the adverse effects on groundwater receptors are more than minor and unacceptable. As discussed above, condition 17 of Schedule 4 has been proffered as an avoidance measure which I consider necessary.

150. Some of the bores at risk are located up gradient from the proposed land scheme. The theory and assessment behind these bores being at risk is that if those bores are pumped, their groundwater drawdown cone could intercept the viruses within the groundwater beneath the land treatment discharge area. For that reason, in my opinion, the potable water supply should be provided to the bore owners using bores for human potable consumption prior to any wastewater is discharged to land. Proffered Condition 17 of Schedule 4 reflects this.

Public Health Risk

151. Mr McBride has undertaken a qualitative assessment of the public health risks of the proposal based on the other relevant expert's evidence.

152. Mr McBride considered a number of submitter's submissions who had concerns over the public health risk to wild food. Mr McBride considers that the health risks from consumption of wild foods, especially tuna (eel), would in the normal course of events be less that minor (especially if not eaten raw).

153. Based on Mr McBride's assessment, I am comfortable that the Projects risk to public health in regard to air and surface water are low and do not require further mitigation, however the viral risk to groundwater users requires attention.

154. As discussed above, virus risks to the seventeen bores have been deemed more than minor by Mr McBride and an avoidance measure is required to be implemented. The proposed mitigation (which is supported by Mr McBride) is to provide these properties with an alternative potable water supply if they are using the bores for potable water. Based on this approach I consider that that this matter has been resolved.

155. It must be noted that groundwater users do not need to take up the potable water supply offer unless there is a moratorium placed on shallow groundwater bores in this area. Therefore, there may still be a risk to groundwater users who decline to accept the offer. I asked SWDC to check what powers they have under the various acts in relation to moratoriums and this is process is ongoing. It may be that SWDC need to work with other organisations (e.g. Ministry of Health and the local the Medical Officer of Health) may have powers to prohibit the use of shallow bores for potable purposes to enforce a moratorium if one is required.

Heritage and Archaeological Effects

156. Related to the effects on air and land outlined above, and the potential effects on water, are the potential effects on the nearby archaeological and heritage sites namely Carkeek Observatory and Longwood House. I concur with the officer's report synopsis, recommendations on conditions

and conclusion that the actual and potential effects on these sites will be no more than minor.

Environmental – Surface Water

Effects on water quality and aquatic habitat at Donald Creek

157. As discussed in Ms Hammond's evidence, the upstream water quality of Donald Creek has been recorded at a location approximately 25m upstream of the point of FWWTP discharge (monitoring location known as Longwood Water Race 2), as part of the ongoing Receiving Environment Monitoring in support of the Resource Consent. A summary of the upstream water quality recorded between 8 November 2005 and 7 June 2015, in relation to generic water quality shows exceedances for guidelines for a range of parameters including dissolved oxygen, visual clarity, forms of nitrogen, phosphorus and *E.coli*.

158. As concluded in Ms Hammond's evidence, overall the effects of the Project on water quality in Donald Creek is likely to be no more than minor by Stage 2A. From as early as Stage 1B, the majority of the water quality effects are likely to be no more than minor with the exception of ammonia where the median and 95th percentiles guidelines[22] will be exceeded. What these exceedances mean in terms of risk and effects to aquatic ecology has been considered by Mr Hamill (refer to a summary below and Mr Hamill's evidence).

159. The actual and potential adverse effects on water quality are to be addressed primarily through the staged upgrades and incremental removal of direct discharges to water over the term of the consent. The significant reduction of discharges during periods of low stream as proposed as a result of the Stage 1B upgrade where nearly 50% of the

[22] *NIWA, 2014. Derivation of indicative ammoniacal nitrogen guidelines for the National Objectives Framework.*

wastewater flows will be diverted to 78 ha of land. This will improve localised creek water quality and health when the effects of the discharge are most pronounced.

160. Further improvements in water quality of Donald Creek will be achieved by the implementation of Stage 2A where significant reductions in contaminant loads are anticipated. Stage 2B will largely avoid adverse effects on water quality by limiting discharge to high flow situations and on an infrequent basis.

Visual Clarity

161. There has been a focus on the effects of the discharge on the visual clarity in the officer's report and what this means in terms of environmental effects on recreation and ecology. There appears to be some confusion as to the relationship between clarity and ecology. I believe has now been resolved through Dr Ausseil's evidence (paragraph 6.44) which states:

"Reductions in water clarity also have the potential to cause flow-on ecological effects on periphyton and macroinvertebrate communities, by reducing the depth at which sunlight can penetrate the water column (the euphotic depth). For example, in lakes or relatively deep rivers, a change in water clarity can cause a reduction in the depth at which plants are able to grow. However, I do not think the reduction in water clarity is a likely direct cause, or major contributor to, the adverse effects on macroinvertebrate communities, Donald Creek being too shallow to be sensitive to a reduction in euphotic depth. The key direct implication of the water clarity changes is an effect on the aesthetic/ amenity and recreational values of Donald Creek."

162. Table 1 of the JWSAQ (page 8) shows that an assessment against the 33% non-conspicuous change clarity guideline. I have added the second row of the table to show the converse way of viewing the clarity effects:

Effect	Existing / Stage 1A	Stage 1B	Stage 2A	Stage 2B
Visual Clarity ("Non-compliance")	>33% clarity reduction most (ca. 67%) of the time. Often >50% clarity reduction.	>33% clarity reduction 21% of time (75 days per year).	>33% clarity reduction 11% of time (42 days per year).	Less than minor / rare 2 days per year
Visual Clarity ("Compliance")	Complies 33% of time.	Complies 79% of the time.	Complies 89% of the time.	Complies 99.4% of the time.

163. As can been seen in the table above, change in water clarity is fairly infrequent from Stage 2A with a "compliance rate" of 89% and by Stage 1B is "complying"[23] 79% of the time. Ms Hammond (evidence page 17) concludes *"that from the commencement of Stage 1B the discharge will have less than minor or at most no more than minor adverse effects on water clarity"*. Given the recreational use of Donald Creek and sensitivity of the receiving environment I agree with this conclusion. From Stage 2B onwards, such effects will be occasional and of short duration for only 2 days per year (less than 0.6% of the time) thus the effects on Donald Creek will be negligible.

Ecology

164. Dr Hamill (evidence page 30) concludes that currently, *"Ecological surveys have found that the Featherston WWTP has a significant effect on water quality and the aquatic macroinvertebrate community of Donald Creek during the summer; however, the effect during spring sampling was relatively minor to moderate. The difference in the effect of the discharge in spring compared to summer reflects seasonal differences in stream flow, dilution, effluent quality and water*

[23] The use of the word compliance is not entirely accurate. There is no standard of no greater than 33% change. Policy 71 of the PNRP includes a guideline to that effect but it only applies at below median flows. The table above includes all flows rather than compliance with P71. This aspect is discussed by Ms Hammond.

temperature." I agree that the current activity is having significant adverse effects on aquatic ecology in summer.

165. I agree that there will be significant changes in clarity during the first 5 years of the proposal. However, there is no evidence that these existing but significantly reducing effects are having any more than minor effects on the aesthetic or recreational values of Donald Creek because those values are and will remain low. The affected part of Donald Creek between the discharge is inaccessible. The first point is of public access to the stream appears to be at Otauira Stream about 200m downstream of the Donald Creek confluence via which ends as a paper road so even this public access point is limited. I am not aware of any recreational use of the affected part of Donald Creek.

166. As concluded by Dr Ausseil's and Mr Hamill's evidence and JWSAQ, overall, from Stage 2B, the Project is likely to have no more than minor adverse effects on aquatic ecology in Donald Creek.

167. Since the JWSAQ, Mr Hamill has now incorporated his April 2018 ecological survey and further statistical analysis into his evidence. Mr Hamill now considers (see evidence page 27) that during Stage 1B, overall the adverse effects on ecology are potentially no more than minor.

168. Mr Hamill (page 11) summarises the 28 April 2018 ecological survey[24] which was undertaken during a period median flow in autumn. The survey found no impact of the discharge on periphyton cover or biomass, little effect on MCI scores 60m downstream of the discharge, but a decline in QMCI. Mr Hamill notes that the results from the site 650m downstream of the discharge needs to be treated with some caution because cattle pug the stream edge and, on this sample occasion, a highly turbid discharge was occurring from Longwood Water Race and obscured the stream bed from sight. I acknowledge that MCI and QMCI have limitations

[24] From Mr Hamill's evidence it is unclear if fingernail clam were present during the April 2018 survey so this should be confirmed to compare the ammonia risk modelling.

for ascertaining ecological effects due to the seasonal variation and other variables that may impact scores (e.g. presence of cattle).

169. Given that Dr Ausseil has not had the opportunity to review Mr Hamill's evidence, further dialogue between the aquatic ecology experts is required to confirm what the scale of effects of the proposed discharge has on Donald Creek ecology during Stage 1B. However, what I can conclude from the current information is:

    a) The magnitude/degree of the effect is likely to be minor from Stage 1B and is likely to be less than minor from Stage 2A.
    b) The nature of the existing effects on aquatic ecology are chronic effects in the short term which are unlikely to occur after Stage 1B.
    c) The main extent of the effect within Donald Creek is generally only 100m stretch downstream of the point of discharge with residual effects possibly occurring as far down as the Longwood Water Race confluence (430m) which introduces more flow but can be turbid at times.
    d) The effects on ecology in Donald Creek are primarily during the summer months initially and from Stage 1B effects in the summer are much less pronounced as more land is developed for irrigation Effects are also more noticeable in autumn for 2-3 weeks (when stream flows are still relatively low).

170. As the proposal stands, for the first 2 years it is likely that there will be frequent more than minor or significant adverse effects on ecology which will reduce considerably in frequency and duration from the end of year 2. From the end of year 5 to the end of year 13 years this will reduce to more than minor effects for some short durations during the year. The primary cause of these impacts according to the ecologist's evidence (refer to Dr Ausseil's evidence, page 20) is mainly due to the particulate organic matter content (i.e. algae/cyanobacteria) of the discharge in the stream's water column (effects on water clarity/colour) or deposited on

the bottom of the stream (effects on macroinvertebrates, sewage fungus, dissolved oxygen). Mr Hamill is of the opinion that the overall effects on aquatic life will be no more than minor from Stage 2A onwards. As I understand it, his view is that the localised, temporary and infrequent periods of "more than minor" effects after stage 2A are no more than minor when considered with the context of Donald Creek as a whole. They are not effects which will endure from year to year or beyond the end of stage 2A.

Effects on water quality and aquatic habitat at Lake Wairarapa

171. The AEE (Section 6.4.6) comprehensively assesses the effects of the Project on Lake Wairarapa (Wairarapa Moana) and concludes:

172. *Given that the current contributions of load of TP and TN to the lake are 2% or less, total removal of the discharge from Donald Creek and the lake would not result in a change in trophic level and the current effect of TN and TP in the discharge on Lake Wairarapa is currently less than minor.*

173. Ms Hammond (page 10) considers the existing contributions to Lake Wairarapa from FWWTP could be estimated as 1.6% and 4.5% of total nitrogen and phosphorus contributions per year, respectively. This contribution is considered minor. More importantly, from stage 1B onwards this contribution will significantly reduce. Overall the proposal will result in significant and rapid reductions in the nutrient contributions to Wairarapa Moana.

Effects on Recreation and Pathogen Risk in Donald Creek

174. As concluded in the AEE (page 112):
"SWDC are not aware of any documented recreational values associated with Donald Creek downstream of the discharge. It is a very small stream with restricted public access which inherently limits the potential for

recreational use and values. Neither Donald Creek nor Abbot Creek are monitored as part of the GWRC Recreational Water Quality monitoring (Morar & Greenfield, 2016). In addition, neither Creek is identified in the Freshwater Plan, PNRP or the RPS as having recreational values. It is likely that there are some recreational uses of parts of Abbot Creek, but there is no evidence of this occurring to any significant degree. It is possible that some minor recreational use of Donald Creek does occur. SWDC have signage indicating the location of the current discharge point, which is proposed to continue as a condition of consent."

175. The nearest MFE / GWRC monitored recreational bathing site is at the Ruamahanga River, approximately 12km east from the FWWTP. The Tauherenikau River, 3km to the east, with significantly higher flows than Donald Creek and higher amenity values, is most likely to be the most used contact recreational destination with numerous access points.

176. Mr Stephenson advises me that Mr Graeme Hodder (previous farm owner of where the proposed land treatment scheme is to be located) has never seen anyone swimming, fishing or eeling within his property, (or the old Hodder Farm) in the 40 years that he has been on the land (which covers the majority of Donald Creek up to Longwood Road). Mr McBride considers the pathogen ad public health risk from ingesting eels is low.

177. Donald Creek is not easily accessible from public roads with no public access points downstream of the discharge. Without climbing over fences through private property, most of Donald Creek it is difficult to access.

178. Donald Creek is not known as being important for trout fishing and there was no submission from Fish and Game in that regard. However, Georgia Emma (Submitter #136) has suggested that some locals go fishing near the FWWTP, I am interested to know where this occurs. I note that there have been no submissions on the explicit contact recreational and value of Donald Creek.

179. Ms Hammond's evidence, as confirmed by in the officer's report (page 37) *"in summary, based on the assessment by Dr Ausseil, I consider that the effects on recreational values will be no more than minor in relation to effects from cyanobacteria and E. coli [sic]".*

180. However, the officer's report concludes (page 37), *"in relation to effects from clarity, the recreational standards are not met upstream of the discharge point, and downstream of the discharge there is a decrease, therefore the effects on recreational values from visual clarity are more than minor."* I disagree with this assessment as there is insufficient evidence to draw this conclusion. Furthermore, as noted by the officer the recreational standards for clarity are not met upstream of the discharge and as noted by Ms Hammond are not met by the inflow from the Longwood Water Race.

181. It is estimated that currently, the Policy P71 (PNRP) clarity standard is likely to be breached on average approximately 179 days per year, or 49% of the year. At Stage 1A there will be a modest reduction in this breach, (23 days less) to 146 days per year, 40% of the year. From Stage 1B onwards (concurrent with 1B within 2 years after commencement), there is a significant reduction in exceedance owing to reduced occurrence of discharges at flows less than median, to an average of 8% of the year, or 29 days per year. This is a reduction of 150 days per year on average from the current situation. The proposed land treatment scheme expansion will result in discharges at less than median flow at Stage 2A to 4% of the time, or 15 days, and reduce to zero discharges at less than median flow at Stage 2B.

182. Based on the operative and regional plan descriptions of Donald Creek, it does not appear to be a high use recreational site or tourist attraction for contact recreation and other secondary contact recreational

activities, especially when compared to other rivers such as the Tauherenikau River are nearby and are more easily accessible.

183. Summer is likely to be the time when most people would partake in recreational activities at Donald Creek and this is reflected by Policy P71 which has a focus on less than median flows.

184. In my opinion, the effects of the proposed discharge on visual clarity and recreation in Donald Creek is less than minor by Stage 1B and there will be a negligible effect by Stage 2B. This is mostly confirmed by Ms Hammond who concludes that the effects on water clarity will be no more than minor by Stage 1B (i.e. within two years of commencement of consent) less than minor by Stage 2A.

185. Furthermore, in my opinion the proposal is likely to have positive effects by improving visual clarity for recreational purposes of Donald Creek, and any actual adverse effects on Donald Creek by Stage 2B would be nil to negligible, and in winter months would be less than minor.

186. In my opinion the proposal will have positive effects by significantly improving visual clarity of Donald Creek within 2 years.

187. The proposed conditions (see Schedule 6) include the monitoring of in-stream clarity.

188. The AEE (page 157) concludes that the MFE guidelines for *E. coli* are almost always met in Donald Creek and the contact recreation risk is low:

"*On review of E. coli concentrations downstream of the current discharge, there has been only one occasion since UV disinfection was installed resulting in an exceedance in the MfE/MoH (2003) Guidelines' "Action Mode", indicating the Creek would not be suitable for recreation.*"

189. To mitigate the risk of swimming downstream of the discharge warning signs are posted at Donald Creek, as required by the current consent and as proposed in this consent in Schedule 1 Condition 26:

For the duration of these consents, the Consent Holder shall:
a. maintain signage on the true right stream banks of Donald Creek in the immediate vicinity of the
treated wastewater outfall which shall at all times:
i. provide clear identification of the location and nature of the discharge;
ii. indicate the general frequency and duration of the discharge;
iii. provide a 24-hour contact phone number; and
iv. be visible to the public visiting the area and legible from a distance of 20 metres without unnecessarily detracting from the visual amenity of the area.

190. For the Discharge to Donald Creek, the total viral log-reduction is 4: 2 (wastewater treatment) plus 2 (river mixing and inactivation), so that an individual swimmer at Donald Creek would be exposed to a norovirus concentration of 10 per litre. In that case the risk faced by any swimmer is close to 1%.

191. Based on Mr McBride's evidence, I consider that the effects of the discharge on contact recreation with regard to pathogens will be no more than minor.

Effects on Contact Recreation and Pathogen Risk in Lake Wairarapa

192. Lake Wairarapa which is approximately 5km away from the point of discharge at Donald Creek. Lake Wairarapa is not part of the GWRC/MfE recreational bathing monitoring programme therefore this infers that secondary contact activities are more likely than primary contact activities.

193. Katherine Jane Beattie (Submitter #93) has indicated that she does not swim at Lake Wairarapa due to its polluted state but would like the lake to be swimmable in future.

194. Mr McBride qualitatively assessed (see evidence) that the risk to individual swimmer at Lake Wairarapa could be exposed to a norovirus concentration of one per litre. The actual dose received by individual swimmers then has to account for the water volume ingested (100 millilitres, one tenth of a litre). In that case each individual swimmer has a one-in-ten chance of ingesting a single norovirus, so that the overall illness risk is 0.1%. This risk is considerably below the border between 'Acceptable' and 'Alert' surveillance modes under the MfE/MoH (2003) recreational water quality guidelines.

195. Mr McBride concurs with the assessment of bacterial risk to Lake Wairarapa as shown in the AEE (page 157) detailed above based on the risk to Donald Creek.

196. As discussed and concluded in the AEE (page 233) and Mr McBride's evidence, the actual and potential adverse effects on primary and secondary contact recreation at Lake Wairarapa is likely to be less than minor. I agree with this assessment.

197. I note that the officer's report does not reach any conclusions on the recreational effects on Lake Wairarapa. The officer's report (see Section 9.7 'Recreational effects') does however note that that there is a community group that is restoring native plants along Donald Creek and Lake Wairarapa and this could be considered as part of the proposed riparian planting conditions that have been proffered by SWDC (refer to Mr Hamill's evidence and my evidence below), noting that Mr Hammill considers that riparian planting along Donald Creek at the FWWTP site is sufficient.

Cultural and Mana Whenua Effects

198. The AEE (page 242) states: *"It is considered that the proposed activity reaches an appropriate balance between affordability whilst giving significant consideration to cultural values and wellbeing. Despite the move to land treatment there will remain an infrequent discharge to water during winter months which is likely to result in adverse effects on cultural values that are* ***not insignificant****. Therefore, it is proposed that cultural health monitoring be undertaken to ensure such effects on cultural values are not significant and facilitate positive relationships with iwi and improvements over time."*

199. No submissions were received from the two main umbrella iwi groups, Rangitaane o Wairarapa or Kahungunu ki Wairarapa however submissions were received from Maori Standing Committee and Pae tu Mokai o Tauira and I have considered these below.

200. SWDC acknowledge and respect the role tangata whenua hold as kaitiaki, as outlined in the evidence of Mr Allingham. SWDC have engaged with iwi through the Project definition process, including through the SWDC Maori Standing Committee and Wastewater Steering Group, through the provision of technical reports, through project consultation meetings and invitations for one-on-one meetings.

201. As Mr Allingham has outlined, SWDC ensured that through the engagement process iwi had a clear understanding of the overall Strategy, the Project and in particular the very real constraints, the options considered, and the preferred option.

202. Notwithstanding this, it is acknowledged that the discharge of treated wastewater (primarily derived from human wastes) to water is offensive to tangata whenua, and adversely impacts on the mauri of Donald Creek and Lake Wairarapa and on the relation of Maori to the surface water.

The proposed reduction in discharge to the creek and move towards a near full-time discharge to land will be on a staged basis. Whilst SWDC accepts and I agree, that bringing stage 2B forward even further would be preferable in terms of cultural concerns as well as water quality, SWDC has concluded that this is not viable from a community cost perspective and not required in terms of the physical environment.

203. The Maori Standing Committee wishes for an *"immediate, upgraded wastewater treatment plant that produces the highest quality of discharge, and if practicable, this is discharged to Papatuanuku (mother earth) where soakage and penetration occurs to meet cultural objectives of spiritually cleaning the treated wastewater"*. As discussed by Mr Allingham, treating to the "highest quality" is cost prohibitive. Mr Couper and Ms Beecroft have discussed in their evidence that there is little environmental benefit of removing any nutrients from the discharge which is proposed to be used as a fertiliser for the cut and carry and the land will act as a form of treatment which is what tangata whenua generally encourage.

204. As I noted above, the treated wastewater discharge already passed through a constructed channel and has land contact prior to entering Donald Creek. I have visited the Hastings wastewater treatment plant that has a "papatuanuku channel", where tangata whenua have agreed that the passing of treated wastewater over land via a constructed rock channel prior to discharge is an acceptable mitigation strategy that could be explored as a mitigation strategy if this is of interest to the Maori Standing Committee.

205. In terms of the contaminant load to Lake Wairarapa being of concern to both the Maori Standing Committee and Pae tu Mokai o Tauira, as discussed by Ms Emma Hammond, the contribution of nutrients from the FWWTP is less than 4.5% of the total lake load.

206. As outlined in the officer's report (page 33 and 34), the cultural concerns around the duration of the discharge to Donald Creek as sought (35 years) is considered unacceptable and *"the effects on cultural values from the discharge to water element of this proposal are potentially more than minor"*.

207. It may be that consultation with these two submitters prior to the hearing is required in order to fully understand their concerns and ascertain if any other mitigation measures could be employed to satisfy their concerns. What I can conclude is that the Project is likely to significantly reduce the impacts on cultural values by shifting 94% of the discharge from water to land and as Mr McBride concludes that the impact on a key mahinga kai species eel will be low.

Economic and Social Effects

208. As highlighted in the officer's report (page 39) there are social and economic benefits from the Proposal. The AEE did not provide any detailed analysis on the economic and social effects of the Project. An assessment of economic and social effects was not requested by GWRC through s92 (RMA).

209. The financial implications of the Project have been assessed by Mr Allingham in his evidence with regard to the impacts on rates.

210. In my opinion, the Project will undoubtedly have positive economic and social effects by providing a safe and efficient wastewater system for the community.

S107 RMA

211. One of the key objectives of the Project and for the alternatives assessment (refer page 58) was for the BPO to meet Section 107 (RMA).

212. The AEE (Table 4, Appendix 13b) indicated as follows:
    - S107(1)(c) – "oil and grease standard" – is not currently met but will be met by Stage 1B.
    - S107(1)(d) – "colour and clarity standard" – is not currently met but may be met by Stage 1B or Stage 2A, and will be met by Stage 2B.
    - S107(1)(e) - "odour standard" - is currently met and will continue to be met.
    - S107(1)(f) – "animal drinking water standard" – is currently met and will continue to be met.
    - S107(1)(g) – "ecological effects standard" – is not currently met but will be met by Stage 1B.

213. The Officers' report concludes that section 107 will not be fully achieved until Stage 2B. That is based upon changes to clarity and claimed effects on aquatic life. The officer's report concludes that there are no exceptional circumstances and the activity is not temporary (page 72 and pages 45-46). I disagree with both conclusions.

Conspicuous change to clarity

214. Table 1 of the JWSAQ summarises the s107(1)(d) clarity matters. The existing discharge does not currently meet Section 107(1)(d) but will do from Stage 2B (albeit that maybe on 2 days per year clarity may show 33% conspicuous change) and mostly meets s107(1)(d) by Stage 2A when only 11% of the time (42 days per year) the s107(1)(d) clarity change may be evident. From Stage 1B the clarity change is unlikely to change conspicuously for 79% of the time.

215. As discussed in the Mott MacDonald memo (7 August 2018) and Ms Hammond's evidence, it is now apparent that the proposed activity will comply with P71(a)(iii) (PNRP) at Stage 2A. It will comply with this policy for the vast majority of time (on 92% of the days in a year) from Stage 1B (after 2 years) and 96% of the time at Stage 2A (after 5 years). Regarding s107 (RMA), within the context of a specific policy which only applies at flows below median flow, it may not be appropriate to claim that

discharges of greater than 33% change at flows above median flow are "conspicuous". I cannot see any policy backing for that within the PNRP or the Freshwater Plan. I assume that P71 is limited to flows below median for good reason.

216. In any event, even if the Panel were to adopt that approach, the Joint Statement Agrees that by stage 2A there will only be 42 days per year on average of conspicuous change (i.e. at all flows) with up to 15 days per year at less than median flows.

217. Ms Hammond concludes that the effect of the proposed discharge from Stage 2A on clarity and colour in Donald Creek will be no more than minor. Dr Ausseil and Mr Hamill seem to agree that changes to clarity are not a direct cause of adverse effects on aquatic life.

Significant adverse effects on aquatic life

218. Mr Hamill's evidence is that the discharge is unlikely to cause any significant adverse effects on aquatic life from Stage 1B or as at worst from Stage 2A onwards. I also understand that he and Dr Ausseil are of the view that if there are any significant adverse effects on aquatic life during Stage 1B these will be short lived (a matter of days or weeks) and are unlikely to extend into Stage 2A.

Can the first 5 years of discharge not compliant with section 105 (1) be granted as being discharge is of a temporary nature?

219. In my opinion, within the context of a 35 year consent and the 40 year history of the discharge, 5 years of continued non-compliance can be regarded as "temporary".

220. Mr Hamill has concluded (page 31) *"In terms of section 107 of the RMA, I am of the view that from Stage 1B onwards (or at latest from Stage 2A) the discharge will be acceptable and not give rise to significant adverse*

effects on aquatic life." In my opinion any potential adverse effects on ecology in the first two years to five years is considered temporary over the consent term of 35 years, especially when the positive effects and benefits to the environment are considered and the proposal is viewed as a whole.

Can the occasional breaches of the clarity standard within section 107 for up to 8 years during stage 2A be regarded as being discharges of a temporary nature?

221. In my opinion the discharges which cause occasional non-compliance with the clarity standard during Stage 2A can be regarded as temporary discharges. Such situations are non-continuous, infrequent and short lived. They appear to have little if any flow on effects in terms of aquatic life, recreation values or aesthetic values.

222. Given the low recreational value of Donald Creek, and the fact that for 79% of the time Section 107(1D) will be met after two years from Stage 1B, that these effects on water clarity are considered minor (refer Ms Hammond's evidence, page 68), I consider this temporary when viewing the proposal as a whole.

Alternatively, are there exceptional circumstances justify the granting of the permit?

223. Additionally, or alternatively, in my opinion, given the infrequent nature of such non-compliance along with the lack of evidence of any consequential effects arising from that, these events can be regarded as "*exceptional circumstances*".

224. The proposal acknowledges that new infrastructure cannot be implemented immediately and will be staged, so in the short term there

will be inevitable adverse effects relating to clarity and ecology. The infrequent non-compliances during stage 2A cannot be avoided.

225. A revised assessment and summary table of the proposed activity against S107 (RMA) was provided in the Mott MacDonald memo (7 August 2018) (see Table 10 below). For emphasis, the revised changes (compared to the AEE) are shown in bold.

Table 10: Revised assessment of the proposed activity against S107 (RMA)

Water quality standard	Compliance (N-No; Y-Yes;)				
Water quality standards established in section 107 of the Act.	Existing	Stage 1A	Stage 1B	Stage 2A	Stage 2B
c. *The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials*	N	N	Y	Y	Y
d. *Any conspicuous change in the colour or visual clarity.*	N	N	**Mostly Met**	**Mostly Met**	Y
e. *Any emission of objectionable odour.*	Y	Y	Y	Y	Y
f. *The rendering of freshwater unsuitable for consumption by farm animals.*	Y	Y	Y	Y	Y
g. *Any significant adverse effects on aquatic life.*	N	N	Y	Y	Y

226. Declining consent based would result in a perverse outcome as the current receiving environments Donald Creek and ultimately Lake Wairarapa will be subject to ongoing adverse effects from an ongoing all year-round direct discharge to water. Declining consent would see the current discharge continue under the current conditions of consent without any upgrade or land treatment for an unknown duration but inevitably longer than the 2 years within which significant improvements would otherwise occur. In my opinion, this scenario amounts to *an exceptional circumstance* which would allow the panel to grant consent.

"and that it is consistent with the purpose of this Act to do so"

227. In my opinion it would be consistent with the purpose of the Act to grant the consent based on either or both of the exceptions. This is the pragmatic approach which was adopted by the Panel in relation to the Greytown consent where similar issues were raised by the officers. I also consider that it would be inconsistent with the purpose of the Act to apply section 107 as a basis for declining consent. That would result in adverse effects on the environment continuing for much longer than would otherwise be the case.

S104(6)

228. Section 104(6) states *"a consent authority may decline an application for a resource consent on the grounds it has inadequate information to determine the application"*. In the officer's view, *"if no further information is provided by the applicant, it is open to the Panel to decline this application under this provision"*.

229. In my opinion, the information provided by Mr Simpson, Ms Beecroft and Mr McBride is sufficient for the panel to determine the application. The assessment and information provided is additional to what was required in the Section 92 (RMA) information request and is as was agreed in the Joint Witness Statement (Groundwater Quality). In my opinion there are no other information gaps which would justify the application of this provision.

S104D – "Gateway Test"

230. The officer's report (page 71) states:

"As I have concluded in section 9.3 of this report, there are a number of effects from the discharge to water proposal which are significantly

adverse. Therefore, in my opinion, the proposal under the PNRP does not meet the first gateway' of Section 104D(a) of the Act.

The second 'gateway' test under Section 104D(b) of the Act is that a consent authority may only grant a resource consent for a non-complying activity only if it is satisfied that the application is for an activity that will not be contrary to the objectives and policies of both the relevant operative plans and proposed plan.

As I have concluded above in sections 11.2 the proposal is contrary to objectives and policies in both the RFP and the PNRP, I can therefore conclude the discharge to water application does not meet Section 104D(b) of the Act.

As the discharge to water does not get through the gateway tests, my view is that it prevents the discharge to water discharge being assessed any further."

231. As discussed earlier, in my view the activity should not be regarded as being a non-complying activity. Alternatively, if I am incorrect on that point, I disagree with both of the conclusions. In my view the proposal fits through both gateways.

232. S104D (RMA) does not stipulate **when** the adverse effects on the environment need to be no more than minor. In my view both sections 104 and 104D are concerned with the effects of granting consent (allowing the activity) over the whole term of consent. In my opinion, based upon the Joint Witness statement and the further evidence of Mr Hamill and Ms Hammond, the overall effect of the proposal on surface water receiving environment will be *no more than minor* within the context of the proposed 35 year consent.

233. The effects on receiving water quality (including clarity) and on aquatic life during the first 5 years of the consent are overwhelmingly positive if

one compares the effects at the end of year 5 (commencement of stage 2A) with the existing and reasonably foreseeable future environment.

234. Alternatively, if one takes the rather non-sensible approach of comparing the effects against a hypothetical (and impractical) "no discharge" scenario during that 5-year period, these residual impacts are no more than minor within the context of as the proposal as whole. The reality is that the effect of granting consent will be result in a significant reduction in adverse effects by the end of year 2 with a further ramping up of those positive effects/mitigation by the end of year 5. The residual adverse effects during the remainder of the consent are in my view no more than minor.

235. In his evidence, Dr Hamill considers that overall, no more than minor adverse effects on aquatic ecology in Donald Creek could occur as early as Stage 1B (evidence, Table 4, page 27) and *"from Stage 1B onwards (or at latest from Stage 2A) the discharge will be acceptable and not give rise to significant adverse effects on aquatic life" (page 31 evidence).*

236. Based on all of experts' evidence listed in Table 8, all other actual and potential adverse effects on the environment are likely to be no more than minor by Stage 2A noting that the groundwater viral risks are more than minor but can be sufficiently mitigated to a point where they are no more than minor. Also noting that the cultural impacts require clarification from Kaitiaki.

237. Accordingly, in my opinion, the S104D(1) test is met and consent can be granted.

238. In my opinion, the Project will not be contrary to the overall objectives and policies in the relevant plans and the PNRP. In my view it achieves all relevant objectives and policies in the operative regional plans and all but one of the policies of the PNRP. Most importantly, the proposal is consistent with the strong overall policy direction in both plans to move

away from discharge of wastewater to surface water by way of a move to discharge to land.

239. I acknowledge that if the Panel does not agree that the proposal is for an "existing discharge" (and is therefore a non-complying activity) that the proposal does not meet Policy P83 of the PNRP. In my view however that policy and the associated definition should not be accorded any significant weight because they are subject to submissions which have not yet been determined. To the extent to which this proposed policy is applicable, in my view it is appropriate to consider it within the overall objectives and policies of the proposed plan. Within that context I do not consider that failure to meet this policy amounts means that the proposal is contrary to the PNRP as a whole.

S105 RMA

Sensitivity of the receiving environment

240. In terms of S105(1)(a), *the sensitivity of the receiving environment* to *adverse effects*, this has been considered in my evidence above and in Mr Hamill's and Ms Hammonds evidence. I provide a summary and further context below.

241. Donald Creek is the immediate receiving environment but needs to be considered along with Otauira Stream which it flows into. The overall stream receiving environment downstream of the discharge is 5 km before entering Wairarapa Moana. Donald Creek is already compromised from upstream impacts from farming run off as illustrated by the MCI values (refer Keith Hamill's evidence). Longwood Water Race which joins Donald Creek 430m downstream is also compromised by farm run off.

242. The zone of reasonable mixing is approximately 100m where adverse effects will continue to be most prevalent. Adverse effects on aquatic

ecology in part derive from the discharge continue downstream to 430 m (Longwood Water Race).

243. Mr Hamill has explained that the most sensitive species **present** are freshwater fingernail clam (particularly sensitive to ammonia). These are present upstream and downstream of the point of discharge in Donald Creek and over time will be able to establish further along Donald Creek as water quality is improved (from Stage 1B onwards). Keith Hamill notes however that this is subject to the suitability of stream substrate within the creek.

244. 2.2km downstream of the discharge, Donald Creek joins Otauira Stream. Mr Hamill discusses the ecological values of this stream in his evidence. He disagrees that this stream is significant in the context of Schedule F1 PNRP and that Otauira Stream is the correct name for the stream downstream from the Donald Creek confluence and not Abbott's Creek. I have addressed above the recreational and aesthetic values of Donald Creek.

245. In summary, in my opinion neither Donald Creek or Otauira Stream are highly sensitive/high value receiving environments and that will remain the case throughout the proposal. The ecological evidence indicates that the most sensitive species present (fingernail clam) are already present downstream of the discharge and by Stage 2A any effects on this species is likely to be no more than minor.

246. The nature of the proposed discharge to Donald Creek is comprehensively discussed above, and results in an overall and very significant reduction in contaminant loads over time with most of that occurring during the first 5 years. Those reductions primarily derive from decreased frequency and duration of the discharge. There are additional benefits from reducing as quickly as is practicable, discharges at times of low flow and progressively reducing discharges at times of low dilution (see Mr Hamills evidence).

Any possible alternative methods of discharge, including discharge into any other receiving environment.

247. S105 (RMA) requires the Panel to have regard to the potential availability of alternatives. Possible alternative methods of discharge, including discharge into any other receiving environment have been considered. The Council decided to progressively move from the current discharge to water to discharge to land. The officer's report (pages 42-43) has no issues with the breadth of the alternatives assessment. Mr Couper. Mr Stephenson, Mr Allingham and Ms Beecroft provide further information on potential alternatives .

248. It is clear from this that that in order to avoid or reduce discharges to surface water, the only option is to discharge to land. That is what the current proposal is for. The officers do not provide any evidence of any readily available alternative to land treatment. They do not provide any evidence that other land is readily available or would be more suitable than the proposed site. The officers do not provide any evidence to suggest that phasing in the land treatment could be achieved earlier than what is proposed. Commencing during the first 2 years of consent and ramping up during the next 3.

249. The officer's report (page 43 in the S105 RMA section) states that the Project is *"primarily a discharge to water with gradual shift to land"*. This is clearly incorrect. The Proposal is primarily a discharge to land with a residual discharge to water (refer to Table 3 above). Within five years of the land treatment scheme being operational 56% of the annual volume of treated wastewater will be discharged to land and 44% of treated wastewater will be discharged to water i.e. will clearly be primarily a discharge to land as opposed to a discharged to water. Within the context of a discharge which has been occurring for roughly 40 years in total (including 10 years under the current consent) and a consent term of 35 years a move to a predominantly land based discharge within

5 years with a significant proportion happening within 2 years is not "gradual".

250. In terms of the stage 2B there is some suggestion in the officers, report that this stage could be brought forward further, however there is no consideration of the practicality and cost benefits of doing so. Mr Stephenson has explained the linkage between I&I and stage 2b pond sizing. Mr Allingham has outlined the basis of the change to 13 years and the affordability consequences of bringing that stage forward any further. Mr Hamill and Ms Hammond have outlined how most of the instream benefits are achieved from Stages 1B and 2A.

251. The only "alternative" that the officers suggest is that consent be declined, so that SWDC can further consider alternatives. In my opinion that is probably not the best alternative because it will require the discharge to continue for some years.

252. As discussed by Mr Couper, Mr Allingham and Ms Katie Beecroft in their evidence, a contingency discharge to water is largely unavoidable unless a substantial storage pond is installed to enable 100% of flows to be discharged sustainably or the wastewater network is re-reticulated (deemed cost prohibitive).

253. The only other potentially financially viable option is Option 5F1 (refer to the Alternatives Assessment (AEE, Appendix 2), that described the option of a "High Rate Biological Treatment Plant" and "Partial Discharge to Land and Water Discharge to Donald Creek". Option 5F1 scored the second highest in the alternatives assessment (Mott MacDonald, 2017). This option scored lower than the proposal due to potential cultural issues with discharge to water over a longer period.

254. Mr Couper has also considered submitter's suggestion of providing the "best possible treatment technologies" (e.g. MBR or SBR). Mr Couper and Ms Beecroft has outlined that all of these higher rate and membrane

treatment processes are not suitable to land treatment schemes because they reduce nutrients in wastewater to levels that means that crops (cut and carry) may not receive enough nutrients for optimal growth. In addition, these WWTPs and technology have significant cost implications.

255. The officers indicate (page 43) that they are "*disappointed*" that no additional treatment is proposed. This ignores the essence of the proposal which to rapidly move to land treatment mostly within the first 5 years of the consent. Ms Beecroft's evidence shows that the discharge of wastewater to land is a form of treatment and indeed is the form of treatment encouraged by the PNRP. Ms Beecroft explains the suitability of the land for that form of treatment. Ms Hammond describes the nutrient attenuation that will result. Mr McBride describes the pathogen reduction that will result from land treatment. Mr Hamill and Dr Ausseil describe the rapid benefits to the stream from moving to this form of treatment.

256. I assume that the officers "disappointment" is directed at the fact that no additional treatment of the effluent is proposed for the first 5 years whilst land treatment is implemented. In my opinion there would be little justification for further add on treatments such as a DAF plant where the benefits would be short lived. There is no evidence provided by the officers to suggest that such additional effluent treatment is required once land treatment is operational.

The applicant's reasons for the proposed choice

257. This matter has been discussed by others. Part of the Applicant's reasoning is that it decided that the proposal represented the *Best Practicable Option*.

Is the proposal the best practicable option?

258. As discussed in the AEE (pages 248-249), Mr Steve Couper's and Mr Mark Allingham's evidence statements, the proposed scheme is considered by SWDC to be the best practicable option (BPO)[25]. The proposal as amended last year aims to achieve as the most significant environmental benefits as quickly as is reasonably practicable and then to achieve the remaining benefits within the next 8 years.

259. The PNRP (Policy P62) promotes the discharges to land over direct discharges to water and the Operative Freshwater Plan (Policy 5.2.13) encourages discharges to land instead of discharges to water and pragmatically acknowledges that in some situations a full discharge to land is not always possible due to technical constraints for example where deferred irrigation land treatment schemes require cost prohibitive or significant storage.

260. Having considered all other potential alternatives as outlined by Mr Couper, I agree that the proposed activity is the BPO.

S104 RMA Conclusion

261. In regard to S104(1)(a) the actual and potential adverse effects of the activity will be no more than minor by as early as Stage 1 (within 2 years) for most of the effects, and are likely to be no more than minor by Stage 2A (within 5 years) for all the potential adverse effects.

[25] Section 2 of the RMA defines Best Practicable Option ('BPO') as in relation to a discharge of a contaminant ... means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to –
a. the nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and
b. the financial implications, and the effects on the environment, of that option when compared with other options; and
c. the current state of technical knowledge and the likelihood that the option can be successfully applied.

262. In regard to S104(1)(ab), the proposed conditions set the measures by which positive effects and adequate mitigation will be ensured. The benefits of the proposal to Donald Creek in particular are significant when compared to the current activity.

263. In regard to S104(1)(b), the Project in my view (subject to my earlier caveat regarding P83 (if it is applicable), is consistent with all relevant NES, regulations, NPS, RPS and operative and proposed plans.

264. In regard to S104(2), only effects over and above the permitted baseline should be considered relevant. In the case of this Project, the existing farm environment has been discussed in detail of having effects on the environment.

265. Overall, the proposed activity is considered consistent Section 104 (RMA).

Part II RMA

266. In my opinion, the Project is consistent with Part II of the RMA, where the overriding purpose is to '*promote the sustainable management of natural and physical resources*'. In my opinion the proposal will:

enable people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—
(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

267. Sections 6, 7, and 8 of the RMA outline the principles by which this overriding purpose should be applied and these have been considered and have been met. In particular Mr Hamill in his evidence (page 31) considers

"In terms of section 6 of the Act, in my opinion the proposal will protect significant habitats of indigenous fauna."

268. In regard to Section 5(a) of the RMA, the proposed activity specifically provides for the long-term economic wellbeing and health and safety of the Featherston and South Wairarapa communities through the affordable and effective treatment of municipal sewage.

269. The existing FWWTP is a substantial community investment and significant physical resource and upgrading the plant with a land treatment scheme is an efficient and appropriate use of that asset.

270. The AEE and expert evidence clearly show that following the implementation of Stage 2A, the proposal is not expected to have more than minor adverse effect on the relevant natural and physical resources, which will be managed to meet the reasonably foreseeable needs of future generations, thus meeting Section 5b.

271. Furthermore, the proposal will safeguard the life-supporting capacity of air, water, soil, and ecosystems through the implementation of a sustainably managed land based treatment system.

272. Of particular note, since the Joint Witness Statement (Aquatic Ecology) was finalised, Mr Hamill has produced his evidence (page 31) that has re-confirmed that *"In terms of section 5 of the Act, in my opinion the proposal will safeguard the life supporting capacity of Donald Creek and Otauira Stream, probably from Stage 1B onwards and more certainly from Stage 2A."*

273. It is acknowledged that the proposal, which involves a discharge of contaminants to land and water will have continued short-term adverse effects on the freshwater receiving environment that are considered more than minor and at times significant. However, these effects are already occurring and will be temporary. Most importantly these effects will be

significantly mitigated or avoided within 5 years of commencement with major mitigation commencing after 2 years. Such effects will be further reduced by Stage 2B with a majority of the discharge removed from Donald Creek resulting in adverse ecological effects that by that point are likely to be less than minor.

274. The proposal seeks to minimise direct discharge to surface water as much as practicable.

275. The effects currently on Lake Wairarapa water quality are considered minor and will reduce to negligible as a result of the proposed scheme. The proposal will not avoid adverse effects *per se*, but it is considered that the potential adverse effects following Stage 2B are to be suitably mitigated proportionate to the receiving environments overall values and are considered no more than minor. The exception is that of the viral risk to potable groundwater receptors down-gradient of the discharge within the five-year groundwater travel envelope that require avoidance measures which will be provided by SWDC in the form of an alternative potable water source where that is required and accepted.

276. The I&I reduction programme proposed will enable the upgrade to be undertaken in a manner which is affordable and efficient, and which will not increase any adverse effect in the short term.

SUITABILITY OF PROPOSED TERM OF CONSENT

277. In summary:

a) SWDC has applied for a term of consent of 35 years;

b) GW officers have not advanced any views on the term of consent but have instead recommended that consent be declined;

d) Sustainable Wairarapa (submitter #146) suggest consent be granted for a short term of 5 years.

278. There are no explicit criteria to determine the term of a resource consent within the regional plans other than Policy P6 (PNRP) that deals with Whaitua which the officer's state is still in draft form and not relevant at the present.

279. A long consent term is appropriate where there is a need for an applicant to protect its investment with as much security as is consistent with sustainable management as defined in Part II of the RMA.

280. The proposal for the FWWTP should be considered in the wider context of the Martinborough and Greytown wastewater schemes, which also require significant investment and for which SWDC has recently obtained 35 year term resource consents. This long-term and integrated district-wide asset management strategy is a key aspect to all three applications.

281. The upgrade will require a significant capital investment for SWDC at a significant cost. The resulting asset will be a sustainable long-term solution for the local community. SWDC need a level of certainty over the consent term to facilitate this investment.

282. The proposed upgrade to land treatment contains some residual uncertainty for stakeholders and GWRC in terms of effects with regard land irrigation capacity and viral risk to groundwater users.

283. Ms Beecroft's assessment concludes, that even allowing for a conservative "buffer", that the land scheme contains sufficient land of suitable characteristics to take all of the wastewater generated without any significant risk of adverse effects which are considered no more than minor.

284. Mr Simpson and Mr McBride have provided avoidance options for the groundwater users at risk and Mr Lawrence has confirmed that an

alternative potable water supply will be provided to those downgradient bores at risk. The residual uncertainty is therefore resolved.

285. Conditions are proposed to manage that any adverse effects through the term of consent are monitored and reported, and that all necessary information is supplied to both GWRC and key stakeholders and avoidance measures are implemented if required.

286. Actual and potential adverse effects have been identified and have been quantified (as far as practicable) across the term of the consent. Any deviations in effects should be identified through monitoring and managed in accordance with relevant detailed management plans and GWRC has the ability to review consent conditions and require the avoidance, remedying and mitigation of adverse effects where required.

287. On this basis, I am of the opinion that the 35 year term of consent duration requested by SWDC is appropriate. In my view the evidence does not point to any uncertainties/risks which cannot be addressed via adaptive management and the use of a section 128 (RMA) review as proposed in conditions.

PROPOSED CONDITIONS

288. A comprehensive suite of consent conditions is proposed and detailed in the AEE. The conditions have so far as is appropriate been based on those contained the Martinborough and Greytown consents. As discussed in the AEE (page 125-126) and in evidence and confirmed in the JWSAQ, an adaptive management approach to managing the effects on Donald Creek is considered appropriate.

289. It is acknowledged that the assessment of effects has largely been based on theoretical modelling and there remain uncertainties associated with

matters pertaining to actual effects, design and management of each stage, including:

a. the significance of effects following the implementation of Stage1;
b. the degree of flow reduction achievable through I&I reduction and thus actual pond storage requirements;
c. the complexity of managing large storage ponds for land irrigation;
d. the actual effects of I&I reduction on effluent quality; and,
e. general limitations with existing receiving environment data.

290. SWDC has therefore adopted a precautionary approach and will apply the principles of adaptive management through the following:

i. Committing to the firm programme for commissioning the land treatment scheme;
ii. Comprehensive monitoring of the sewer system and pond performance;
iii. Comprehensive monitoring of the receiving environment (Donald Creek), land treatment areas and groundwater with triggers for appropriate management action;
iv. Quarterly exception reporting;
v. The proposed annual reporting process, including a full review of system performance, I&I reduction results, and include a risk analysis of the proposed land treatment scheme at that point in time;
vi. A review of the efficacy of Stages and consideration of further mitigation and bringing Stage 2B forward if necessary (note tracked changed version Annexure 5);
vii. The collaborative approach proposed with stakeholders through the Community Liaison Group.

291. I agree with the adaptive management approach and consent framework approach.

292. Given the changes required to conditions, a tracked change version is Appended below as Annexure 5 and the changes are explained below. For brevity, as the approach to consent conditions is already detailed in the AEE, I only explain the proposed changes to conditions that have arisen through the evidence process.

293. I anticipate that the Officers reply will provide a comprehensive list of any suggested changes to conditions along with the reasoning for those. Until that is received I am unaware of what concerns or suggestions they may have.

CONCLUSION

294. The existing FWWTP has been operating for in excess of four decades. The discharge forms part of the existing and reasonably foreseeable future environment.

295. The Project will provide significant benefits to Donald Creek most of which will be achieved within the first 2 to 5 years.

296. The operative and proposed regional plans strongly encourage discharges to land over water.

297. The activity is a discretionary activity under the operative plan and in my view, is intended to be a discretionary activity under the PNRP on the basis of a purposive interpretation.

298. Even if the Panel considers the activity to be non-complying activity under the PNRP, the gateway test (s104D RMA) can be met as overall the adverse effects on the environment are likely to be no more than minor, acknowledging that I cannot assess the degree of effects on Maori values.

299. If the panel agrees with the officer's report that the activity is non-complying (i.e. it is a new discharge), then the proposal is contrary to P83 of the PNRP, but in my view is not contrary to the overall objectives and policies of the PNRP.

300. If the panel considers that the activity is for an existing discharge, then it is not a non-complying activity. Under that scenario, in my view the proposal meets all of the relevant objectives and policies in the operative and regional plans.

301. Overall, the proposed activity will result in a considerable reduction in adverse effects, and the enhancement of the near zone receiving environment and the wider catchment.

302. In my view, section 107 is not a barrier to granting consent. The non-compliances are within the contexts of temporary discharges and the circumstances are exceptional.

303. Based on the evidence of the experts and my assessment of the planning documents, I consider that the Project meets all relevant statutory provisions including the NPSFM, NESDW.

304. I consider, with additional proffered conditions and avoidance measures, as set out in my evidence, that the issues set out in the officer's report (page 1) have been resolved.

305. In my opinion the proposal is consistent with the purpose and principles of the Act. Declining consent would not achieve the purpose or principles of the Act and in my view would be contrary to the policy direction in the relevant planning documents. Not allowing the proposal have a perverse outcome for the environment.

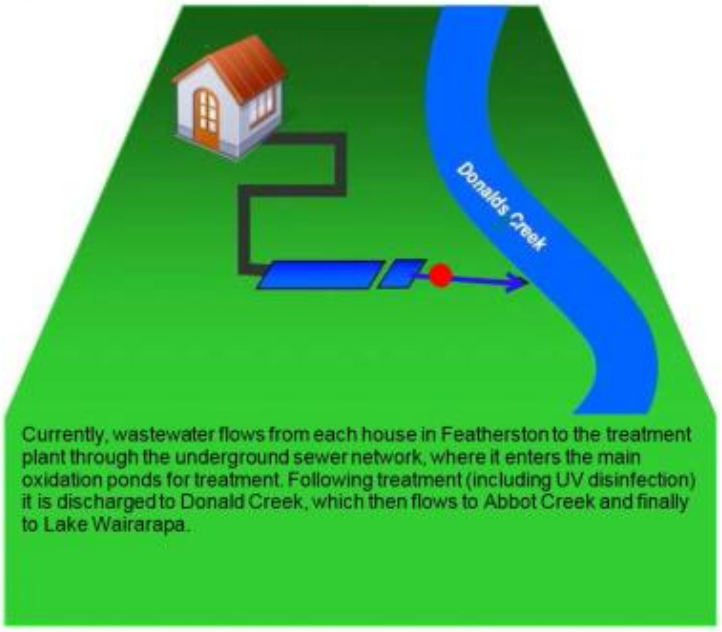
306. In my opinion, consent should be granted in accordance with the proposed conditions or such amendments as the Panel finds to be appropriate, for a 35 years term.

Signed:

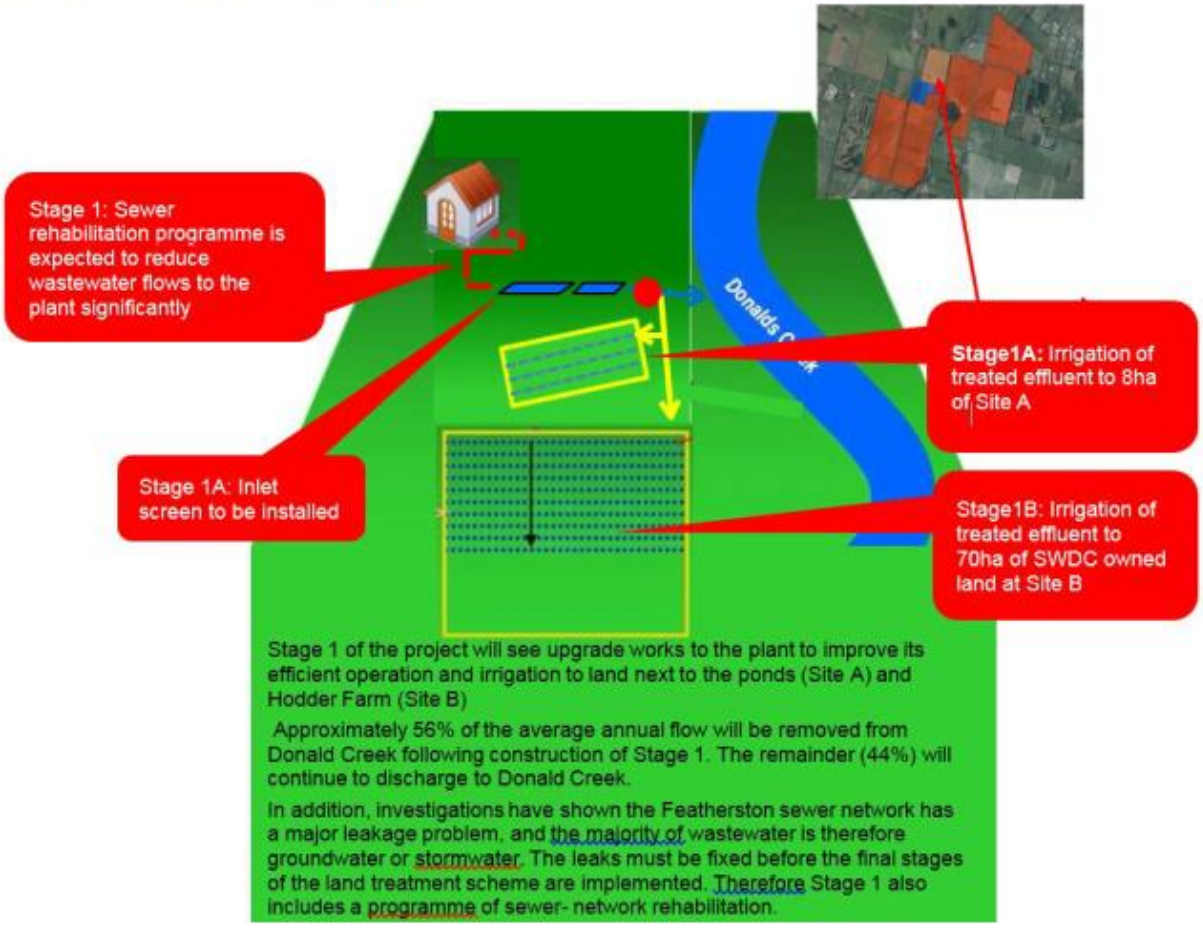
Sven Exeter
2 April 2019

ANNEXURE 1: Schematic of existing wastewater treatment process, proposed staged upgrade and percentage of total treated wastewater volumes discharged to land vs water

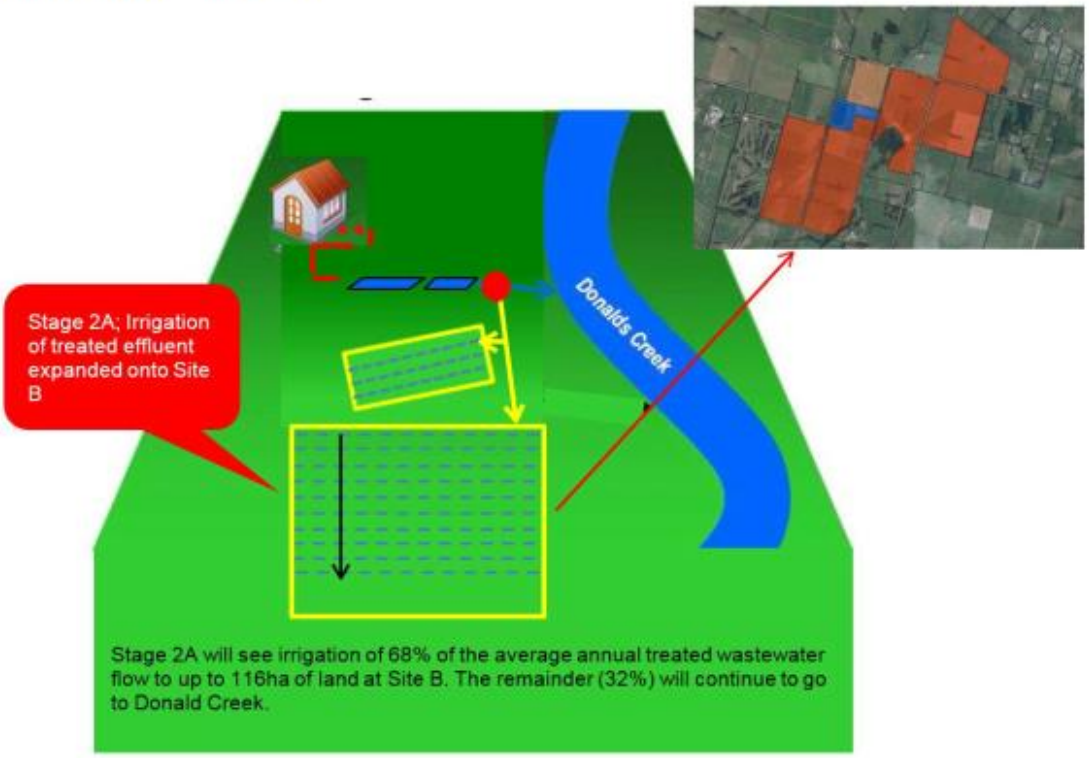
(a) Featherston WWTP Existing Situation



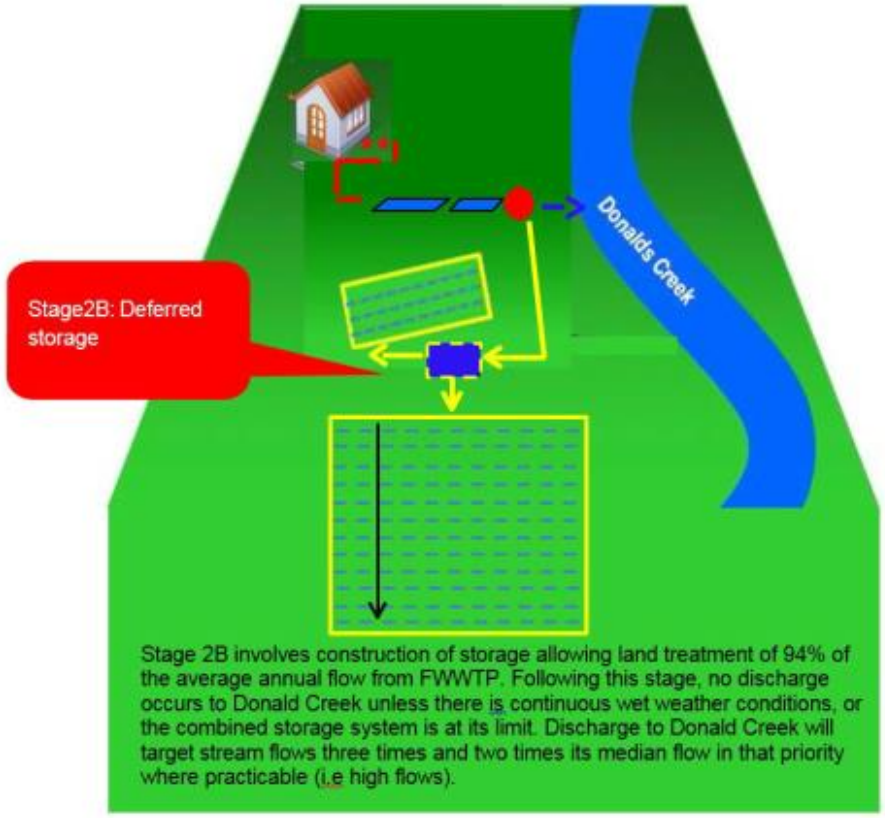
(b) Featherston WWTP: Stage 1



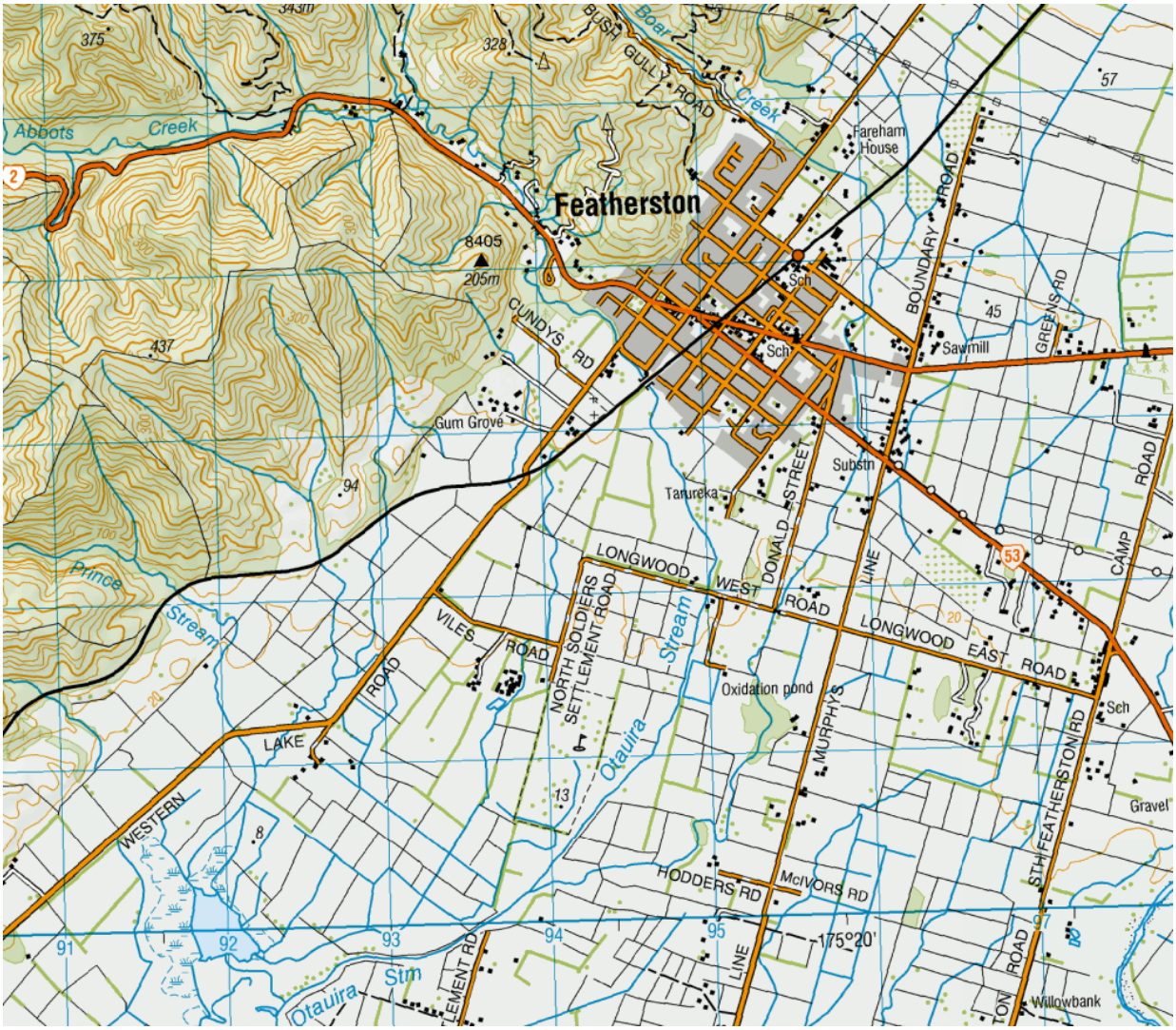
(c) Featherston WWTP: Stage 2A



(d) Featherston WWTP: Stage 2B



ANNEXURE 2a: Topographical Map Showing Abbotts Creek and Otauira Stream



Source: https://www.topomap.co.nz/NZTopoMap/nz43334/Featherston/
Note: NZ Topo Map is an interactive topographic map of New Zealand using the official LINZ's 1:50,000 / Topo50 and 1:250,000 / Topo250 maps.

ANNEXURE 2b: Topographical Map Showing Lake Wairarapa (bottom of map)

ANNEXURE 3: STATUTORY ASSESSMENT

Regional And District Planning Assessment

307. Relevant regional and district plan considerations are discussed in the following sections. For the sake of brevity, I focus on the key matters of disagreement with the officer's report, in the same order of the officer's report. Objectives and policies are firstly stated and then commented on.

Operative Freshwater Plan Objective and Policy Assessment

308. The officer's report generally agrees the Project is consistent with a number of key objectives (4.1.1 – 4.1.3 and 4.2.7) and policies 5.2.10, 5.2.11 and 5.2.13.

309. ***Objective 4.1.1*** *- the relationship of tangata whenua and their culture and traditions with fresh water is recognised and provided for.* ***Objective 4.1.2*** *– the mauri of water bodies and river and lake beds is protected.*

Objective 4.1.3 *– the principles of the Treaty of Waitangi are taken into account in the management of the Region's water bodies and river beds.*

Objective 4.2.7*: To encourage and support, where appropriate, tangata whenua participation in monitoring the effects of activities that may potentially adversely affect sites or values of importance to the tangata whenua.*

Policies 4.2.1, 4.2.4 and 4.2.5 *seek to avoid, remedy and mitigate adverse effects on water bodies and habitats of species harvested by iwi as well as having regard to values and customary knowledge identified by tangata whenua on these issues.*

310. The officer's report states: "*It could be argued that this proposal when considered as a whole, could meet the intent of these objectives and policies…Before I make a conclusion on these objectives and policies, I*

would like to hear further from the iwi group submitters and applicant on this issue. It may be that with the removal of the discharge from water to land that the proposal satisfies any concerns."

311. Given the CIA, consultation with tangata whenua (see Mr Allingham's evidence) and proposed consent conditions require consultation with tangata whenua I consider that the that the intent of these objectives and policies have been met. I agree with the reporting officer that given the submissions[26] from the Maori Standing Committee for South Wairarapa (District Council) and Pae tu Mokai o Tauira, and their comments on the residual discharge to Donald's Creek (after Stage 2B) and the effects on mauri, further dialogue with these submitters is considered prudent to provide insight on these objectives and policies.

312. ***Objective 4.1.5*** *– the life supporting capacity of water and aquatic ecosystems is safeguarded from the adverse effects of any use and development.*

313. The officer's report (page 52): *"As mentioned in the RPS section above, effects of the proposal on aquatic ecosystem health have been considered in section 9.3 of this report, and are more than minor and possibly significant for at least the first 5 years of the consent, and then more than minor but unlikely to be significant from year 5 onwards to year 13. As noted above, it is my understanding from legal advice provided that to 'safeguard' something would mean that the effects would have to be less than minor as safeguard means to protect or prevent. This policy does not distinguish upon which times of the year aquatic ecosystems should be safeguarded, the premise is to safeguard them all of the time. I do not think the proposal achieves that."*

314. I note that the legal advice referred to is not provided. I disagree with the reporting officer that the Project is contrary to this objective. As

[26] Submitters #76 and #60.

agreed by the experts in the Joint Witness Statement (Instream Ecology), the Project is likely to safeguard life supporting capacity of water and aquatic ecosystems from as early as Stage 1B (within two to five years) when the effects on the life supporting capacity of water and aquatic ecosystems will be negligible in the summer and not significantly adverse for the remainder of the year. The Joint Witness Statement (Instream Ecology) states, Section 107(1)g is likely to be met all of the time from Stage 2A (5 to 13 years after commencement from Stage 2B (to be completed no later than 13 years after commencement of consent) the experts have no doubts that that Donald Creek will be safeguarded at Stage 2B.

315. There is a current failure to safeguard life supporting capacity. That has continued for 10 years since the discharge commenced under the current consent. If consent is granted that failure will be significantly reduced with 2 years and removed within 5. If the consent is not granted the failure is likely to continue for longer.

316. ***Policy 5.2.6*** *– except for rivers identified in Appendix 7 (water bodies needing enhancement), water quality of all surface water bodies in the region shall be managed for aquatic ecosystem purposes.*

317. The officer's report states (page 52): *"It is my understanding from legal advice provided that the term 'managed' means avoidance or reduction of the relevant effect and it is my opinion that this proposal is not avoiding effects on water quality and aquatic ecosystems. Whilst it could certainly be argued that over the whole life of the proposal that effects are being reduced at times when the discharge to land occurs, for the rest of the time when the discharge is actually occurring nothing is being done to avoid the more than minor effects of the discharge (such as dilution rates and other mitigation measures which would improve the quality of the discharge). Therefore, I consider the proposal is contrary to this policy. This policy does not distinguish upon which times of the year water quality shall be managed for aquatic ecosystems."*

318. I disagree with the reporting officer's assessment. Firstly, managed does not mean avoidance. The effects of the proposal are being managed to ensure significantly reduce adverse effects on the aquatic ecosystem within 2 years and largely avoid those effects within 5 years. The proposed Riparian planting will provide additional "management".

319. It makes practical sense to manage the discharge based on times of the year and to reduce the effects on ecology when it is at more risk (e.g. summer during low flows). Finally, this policy seeks for the discharge to meet the water quality guidelines (S70 and S107 RMA) The requirement to avoid significant adverse effects on aquatic life will be achieved within 5 years.

320. Policy 5.2.10A states *"When considering any application for a discharge the consent authority must have regard to the following matters: a) 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 … This policy applies to the following discharges…: a) a new discharge or b) a change or increase in any discharge…".*

321. The officer's report (page 53) states *"Overall I consider the proposal is contrary to this policy as it will not avoid contamination that adversely impacts the life supporting capacity of freshwater."* In my opinion, this policy is not relevant as the proposed discharged to water is not new in terms of the Operative Plan, nor has it changed other than reducing contaminant load, frequency, duration and effects. Furthermore, the policy merely requires that regards be had to these matters. It does not required that they each be achieved.

322. The NPS-FM guidance document[27] states *"it does not apply to…consents for an existing consented discharge"* which makes sense as I doubt that the intent of this policy is to capture discharges that seek to improve

[27] http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/nps-fm-guide-2017-final.pdf

water quality, but rather to manage those discharges that may have greater effects on surface water quality over time i.e. “consent creep”.

323. *Policy 5.2.12 – to allow a discharge containing sewage directly into freshwater without passing through land or a wetland (subject to 5.2.10) where it better meets the purpose of the Act to go to water rather than land, where consultation has been done with tangata whenua and there has been consultation with the community*. The proposed treated wastewater discharge to Donald Creek does pass through a constructed channel prior to discharging (i.e. the point of discharge). Trials in 2012 on incorporating a floating wetland into the treatment system were not successful and have therefore not been progressed (refer to Mr Allingham’s evidence). There has been consultation with tangata whenua and the community. The current process allows for that to continue.

324. From Stage 2B up to 94% of the volume of wastewater generated by township will be discharged to land with only a small residual discharge being discharged to Donald Creek in times of high flow during the winter. Mr Allingham has detailed the breadth of consultation with tangata whenua and a CIA was undertaken that considered land treatment schemes with partial discharges to surface water.

325. Mr Allingham has also discussed the consultation that was had with the community. On balance when considering the financial implications on the community (refer to Mr Allingham’s evidence) and the residual low impacts on Donald Creek, and the purpose of the RMA, in my opinion the Project is consistent with this policy.

326. *Policy 5.2.13 – to encourage users to discharge to land as an alternative to surface water where discharging to land has less adverse environmental effects than discharging to water, there are no significant cultural, environmental, technical or financial constraints associated with discharging to land.* As discussed in the AEE and generally agreed in the officer’s report, this policy is met. SWDC have proffered conditions to overcome the key significant technical implication of the

Project regarding viral risk and potential impacts on groundwater users downgradient from the land treatment scheme.

Regional Discharges to Land Plan

327. The Discharge to Land Plan has a range of objectives and policies addressing primarily land contamination, hazardous substances, and waste discharges. The Plan recognises the importance to tangata whenua and the wider community of removing sewage from water for discharge to land, and the benefits of land based discharges, but also recognises that poorly designed systems, overloading soils or discharging industrial waste can have an adverse effect on the soil resource (Issue 2.1.3 & 2.3.1). Overall, the Plan recognises a preference to discharge sewage to land.

328. ***Objective 4.1.4*** *– there is a significant reduction in contamination of surface water and groundwater from the discharge of human effluent to land.* The experts agree that there will be a significant reduction in contamination to surface water from stage 1B onwards and no significant increase in contamination to groundwater.

329. ***Policy 4.2.12*** *– to give particular consideration to any relevant iwi management plans or statements of Tangata Whenua views when considering applications for the discharge of human effluent (treated or untreated) to land.* This matter has been discussed above, and a CIA has been undertaken therefore this policy is considered to be met.

330. ***Policy 4.2.13*** *– to give particular regard to certain matters when assessing applications for permits to discharge to land, these matters include; the nature of the contaminants entering the system, any trade waste present, extent to which stormwater can enter the system, the management of the system, the location of the site and the hydrogeology, the extent to which the effluent is treated, any odour effects, human health and amenity effects, public health guidelines.*

331. This policy is particularly important as the Project is directly aligned to the overriding objective of a transition toward sustainable land-based wastewater treatment and thus meets this policy. As discussed in the AEE (page 160) and confirmed by the SWDC expert's in their evidence:

"The nature of the contaminants entering the system and management of trade waste are addressed in Sections 2.2.1 [of the AEE] and are considered to be a small percentage of the largely domestic wastewater stream. The management of stormwater inflow is an important component of the proposed scheme upgrades and will be addressed through a targeted I&I rehabilitation programme. The characteristics of the site and discharge are provided in Sections 2 and 3 [of the AEE]. Odour, human health and amenity effects have been appropriately mitigated through proposed buffer distances to the land treatment site from sensitive receptors, wind cut off triggers for irrigation, and appropriate treatment of the effluent prior to discharge."

332. ***Policy 4.2.14*** *– to require discharges to land from sewerage systems to have a site specific management plan for the discharge*. This policy is considered met as a sites specific Discharge to Land and Water Management Plan is to be prepared proposed through conditions of consent.

333. ***Policy 4.2.42A*** *– this policy was inserted as a result of the NPS-FM and seeks to ensure that when considering an application for a discharge, the consent authority will have regard to whether the discharge would avoid contamination that will have an adverse effect on life supporting capacity of freshwater.* In my view, this policy is met given the significant reductions in contaminants being discharged to water from Stage 1B onwards and having regard to the Joint Ecological Statement and the evidence of Mr Hamill.

334. Officer's report: *"I cannot make a firm conclusion as to whether all the relevant objectives policies of the DLP are being met at this stage, given the uncertainty surrounding the discharge to land element of the proposal."* As discussed above, the uncertainty around virus impacts has now been fully assessed and avoidance measures have been proffered therefore re-analysis from GWRC on these objectives and policies is required.

335. Overall, I consider that the Project is consistent with the relevant objectives and policies of the Regional Land Plan.

Regional Air Quality Management Plan

336. The officer's report confirmed that all relevant objectives and policies have been met, subject to further work and confirmation on wind direction and speed. This further work is discussed by Ms Beecroft and Mr McBride and has confirmed that the Project is consistent with the Regional Air Quality Management Plan.

PNRP Objective and Policy Assessment

337. ***Objective O3*** *– Mauri is sustained and enhanced, particularly the mauri of fresh and coastal waters.*
Objective O4 *– The intrinsic values of aquatic freshwater and marine ecosystems and the life supporting capacity of water are recognised.*
Objective O5 *– Freshwater bodies and the coastal marine area, as a minimum are managed to: (a) Safeguard aquatic ecosystem health and mahinga kai; and (b) Provide for contact recreation and Maori customary use, and(c) In the case of freshwater, provide for the health needs of people.*

338. The officers report (page 57): *As has been concluded in section 9.3 of this report and the RFP section above, the proposal is not safeguarding the*

aquatic ecosystem health whilst the effects from the discharge to water are occurring. Therefore, I consider the proposal is contrary to Objective O5 and will remain so for at least 5 years. It does not however meet the recreational guideline for visual clarity which is an important indicator for contact recreation and so the proposal will not be consistent with the objective in this regard."

339. As discussed above, it is considered that when viewing the Project as a whole, that these objectives will be met however further dialogue with tangata whenua is considered prudent. Aquatic health will be safeguarded within 5 years. With regard to visual clarity, there will be a significant improvement for Donald Creek within 2 years and that will increase. I do not agree than the proposal fails to provide for contact recreation.

340. ***Objective O9*** *– The recreational values of the coastal marine area, rivers and lakes and their margins and natural wetlands are maintained and enhanced.*

Objective O11 *- Opportunities for Maori customary use of the coastal marine area, rivers and lakes and their margins and natural wetlands for cultural purposes are recognised, maintained and improved.*

Officer's report (page 57): There are important customary values of Lake Wairarapa and its tributaries and while the effects on the lake will be maintained, they will only be improved provided that the discharge to land element of this proposal can go ahead as outlined in the AEE. More work needs to be done in relation to both the discharge to land element of the proposal and on cultural effects before a firm conclusion could be made on whether the proposal meets this objective. The Project will progressively reduce the impact on Donald Creek and Lake Wairarapa and recreational water quality guidelines will be met. The impacts on Maori customary use is also to be reduced over time. Given the expert evidence and assessment of effects detailed above, it is considered that these objectives will be met.

341. ***Objective O14*** *– Maori relationships with air, land and water are recognised, maintained and improved.*

Objective O16 *– the relationship of mana whenua with Nga Taonga Nui a Kiwa is recognised and provided for.*

Submissions received state that the relationship between Maori and waterways (in particular Lake Wairarapa and the values they place on the Lake) is not being maintained or improved. Now that the lake bed is being given back to local iwi through the treaty claims process, and the management of the Lake is to be done jointly with GWRC, DoC and Iwi, there is even more impetus to ensure Maori relationships with air land and water are recognised, maintained and improved. Both groups who submitted on the application feel that the discharge into water is occurring for too long. More work needs to be done in relation to cultural effects before a firm conclusion can be made on whether the proposal meets this objective. As outlined in the AEE (page 162), the Project aims to meet Objective O14 and *"There is no evidence provided in the CIA that Donald Creek is used for Maori customary use. Even so, the high quality of effluent in terms of pathogen removal in conjunction with the proposal to eliminate direct discharges to water in all but winter months ensures the proposal meets the intent of this policy…there are proposed consent conditions include the development and implementation of a Tangata Whenua Values Monitoring Plan which is intended to provide a collaborative process for Maori to participate in and from which core values for monitoring will be identified in recognition of their relationship with the environment."*

342. The intent of the Project is to also meet Objective O16 however I agree with the officer's report that this could be confirmed via dialogue with the mana whenua submitters.

343. As agreed in the officer's report (page 59), the relevant water quality objectives (O23 and O24) seek to maintain or enhance water quality and require freshwater to be suitable for contact recreation and Māori

customary use by meeting primary or secondary contact water quality criteria depending on the significance of the water body for contact recreation.

344. *Objective O25 states: To safeguard aquatic ecosystem health and mahinga kai in fresh water bodies…:*
(a) water quality, flows, water levels and aquatic and coastal habitats are managed to maintain aquatic ecosystem health and mahinga kai, and
(b) restoration of aquatic ecosystem health and mahinga kai is encouraged, and
(c) where an objective in Tables 3.4, 3.5, 3.6, 3.7 or 3.8 is not met, a fresh water body or coastal marine area is improved over time to meet that objective.

345. The officer's report (pages 59-60) states "*As has already been mentioned, this proposal is not safeguarding ecosystem health…In relation to the detailed tables, Dr Ausseil provides some conclusions on this Objective in his report (Table 3) in relation to MCI score and periphyton. His conclusions in relation to MCI score, are that this is not being met upstream or downstream for any of the stages. In relation to periphyton, for all stages he says that it is unknown if this will be met upstream and uncertain if it will be met downstream (temporary exceedances likely during shoulder seasons). Therefore, I conclude that based on this assessment the proposal is contrary to this objective as aquatic ecosystem health is not being safeguarded.*

346. In regard to the officer report conclusions on MCI and Stage 2A, I note that Dr Ausseil (page 25) in his evidence states: *"The MCI component of Objective 25 (MCI>120) will not be met upstream or downstream of the discharge, but this is due to the relatively degraded state of macroinvertebrate communities upstream of the discharge, rather than the effects of the discharge itself."* It appears that the officer's report is at odds with Dr Ausseil's evidence and that by Stage 2A the proposed residual discharge is unlikely to be the cause of this MCI score not being

met and that the permitted activities upstream of the discharge are likely to be the cause i.e. permitted baseline effects are likely to cause more of an impact on the MCI than the proposed discharge.

347. The same can be said for the periphyton component Objective O25, where Dr Ausseil states "I*t is uncertain whether the periphyton component of Objective 25 (biomass < 50 mg/m^2) will be met; again this uncertainty is due a lack of data and the discharge itself is unlikely to significantly affect whether Objective 25 is met in Donald Creek during Stage 2A."*

348. Dr Ausseil suggests that "*the only way to address this uncertainty is via monitoring"*. It is important to note that Objective O25 (c) states: *"where an objective in Tables 3.4, 3.5, 3.6, 3.7 or 3.8 is not met, a fresh water body or coastal marine area is improved over time to meet that objective"*. The Project will undoubtably significantly improve water quality over time, mostly with the first 5 years of the proposed 35 year consent.

349. ***Objective O35*** – *Ecosystems and habitats with significant indigenous biodiversity values are protected and restored.* The officer's report (page 60) states: *"Abbotts Creek, its tributaries (Donald's Creek) and Lake Wairarapa [sic] are identified as having significant indigenous ecosystem values. For the same reasons as given for Objective O5 or O25 (which relate to aquatic ecosystems), the proposal is contrary to this objective also*.

350. I disagree with the officer's report as per my comments above, as the aim of proposal is to protect ecology. There is no time limit on meeting this objective which I consider will be met by the Project as a whole. I also note that Mr Hamill disagrees that Abbot's Creek is relevant as this is upstream of the discharge and Otauira Stream is the next stream down from Donald Creek.

351. ***Objective O40*** *– Human health, property, and the environment are protected from the adverse effects of point source discharges of air pollution.* The reporting officer and I both agree that this is met.
Objective O46 *– Discharges to land are managed to reduce the runoff or leaching of contaminants to water.*
Objective O49 *– Discharges of wastewater to land are promoted over discharge to freshwater and coastal water.*
Objective O50 *– Discharges of wastewater to freshwater are progressively reduced.*

352. The officer's report (pages 60-61) states: *"the proposal is to progressively reduce discharges of water to freshwater and also for a discharge to land to occur. However, there is still a discharge to water element in this proposal for 13 years (and in a minor way from year 13-35) and there is uncertainty surrounding whether the land can be used to discharge to land without exceeding the natural capacity of the soil to treat the discharge. Therefore I do not think the proposal as it stands is able to achieve these objectives.*

353. I disagree with this conclusion and consider that these objectives are met. This is discussed in my evidence above. It is clear from the evidence from Ms Beecroft and others that discharges will not exceed the natural capacity of the soil to treat discharges. Indeed that land treatment is a key component of the proposal.

354. ***Policy P4: Minimising adverse effects*** *Where minimisation of adverse effects is required by policies in the Plan, minimisation means reducing adverse effects of the activity to the smallest amount practicable and shall include…* the officer's report states (page 61): "*I do not consider that this application has gone into sufficient detail (especially with the land discharge component) to say that it will meet the intent of Policy P4. It is my understanding from legal advice provided that minimise means 'to reduce (something, especially something undesirable) to the*

smallest amount or degree'. It may be that over the course of the proposal that this may occur once the effluent is removed from the waterway but this is not for at least 13 years. Also, as there is so much uncertainty around the potential effects of the discharge to land, both on whether there will be able to be as large a reduction in discharges to water as well as potential effects on groundwater mounding and quality effects beyond the boundary of the discharge area. I do not believe the application can meet the intent of Policy P4 and I consider it is contrary to this policy."

355. Ms Beecroft and Mr Simpson have now provided the necessary detail in their evidence regarding the discharge to land and effects on groundwater as agreed in the Joint Witness Statement (Groundwater Quality). In my opinion, as per the AEE (page 164) Policy P4 is clearly met because alternatives have been considered and the Project aims to time the discharge to Donald Creek to winter months when the receiving environment is less sensitive.

356. The PNRP and allows for the minimisation of adverse effects where practicable. The effects on Donald Creek are reducing to the smallest amount practicable when comparing the current pollutant load to the proposed reduced pollutant load and I/I influent reduction approach as discussed in Mr Park's evidence. Most of that minimisation occurs within the first 5 years of the proposal. The officer's report does not provide any evidence to suggest that a greater degree of minimisation is practicable.

357. ***Policy P7*** Both the officer's report and I agree that Policy P7 is met and that the Project has positive effects.

358. ***Policy P10: Contact recreation and Maori customary use*** *The management of natural resources shall have particular regard to the actual and potential adverse effects on contact recreation and Maori customary use in fresh and coastal water, including by: (a) providing water quality…suitable for the community's objectives for contact*

recreation and maori customary use… The officer's report states "*The application does not detail how it will address all the issues raised in the Cultural Impact Assessment which was undertaken in 2012…As such, I do not believe that the current application is able to meet Policy P10 and therefore must conclude it is inconsistent with this policy."* As stated in the AEE (page 165), *"Policy P10 requires that freshwater bodies provide for contact recreation and Māori customary use and it is considered that the proposal meets this policy by meeting the relevant numerical guidelines for water quality prescribed in Objective 24 Table 3.2."* In my opinion I believe that this policy can be met but further dialogue with mana whenua at the hearing will help shed light on this matter.

359. ***Policy P12: Benefits of regionally significant infrastructure*** – *The benefits of regionally significant infrastructure and renewable energy generation activities are recognised by having regard to: (a) the strategic integration of infrastructure and land use, and (b) the location of existing infrastructure and structures…(e) operational requirements associated with developing, operating, maintaining and upgrading regionally significant infrastructure…*

The officer's report (page 62) agrees that there are *"positive effects"* with the Proposal but *"not any detailed information as to the economic effects of the upgrading of the system"*.

In my view it is clear that this proposal is consistent with this policy. The WWTP provides regionally significant and essential infrastructure. The proposed upgrade will similarly be regionally important and has a high level of strategic importance for the District. The policy does not require an economic assessment. The strategic importance and costs of the project are discussed in more detail by Mr Stephenson and Mr Allingham.

360. As discussed in the AEE (page 165), the policies on ***Maori relationships*** *- P17, P18, P19, P20 "are directed at maintaining and considering mauri*

and Maori values, and recognising kaitiaki. The proposal aims to meet Maori aspirations by applying a majority of the existing discharge to land by Stage 2B, and involves kaitiaki in monitoring the effects of the activity. Policy 18 requires the consideration of Lake Wairarapa which is listed in Schedule B as Nga Taonga Nui a Kiwa. Overall given that the effects on mauri of the waters in Donald Creek following the implementation of Stage 2B are not expected to be significant and the effect on Lake Wairarapa will be less than minor; the proposal is considered consistent with these policies."

361. The officer's report (page 63) states: *"Before I make a conclusion on this policy, I would like to hear further from the iwi group submitters and applicant on this issue".* In my opinion, based on the CIA, I consider these policies are met but further dialogue with iwi group submitters would be prudent.

362. Policies P31 and P32 seek for aquatic ecosystem health and mahinga kai to be maintained or restored biodiversity, aquatic ecosystems health and mahinga kai, and provides a hierarchy system for how significant adverse effects are managed.

363. The officer's report (page 64) states: *"This proposal has significant adverse effects for 5 years on aquatic ecosystems and these are not avoided by any mitigation measures to improve the quality of the discharge, or to increase the dilution rates, and therefore, the proposal does not meet this part of the policy."* As discussed in my evidence above, the ecologists agree that significant adverse effects will occur however these will be mitigated as the land treatment scheme is being developed. There will be significant mitigation from stage 1B onwards. Mr Hamill discusses how the proposal will decrease discharges at times of low dilution.

364. The officer's report (page 64) states: *"I do not believe that the proposal meets these policies until it has been shown that a discharge to land as proposed is actually achievable (without causing effects on ground water quality and quantity) which could impact on aquatic ecosystem health and mahinga kai."*

365. The evidence demonstrates that a discharge to land is achievable and will not impact on aquatic ecosystem health or mahinga kai.

366. In my opinion Policy P31 will be met as biodiversity will be at least maintained and likely enhanced by the Project. As discussed above in my evidence and the AEE, significant adverse effects on Donald Creek cannot be avoided in the short term as the Project involves an existing discharge.

367. In regard to Policies P33, P40 and P41, the officer's report (page 65) states *"this proposal does not protect and restore the ecosystems and habitats of Donald's Creek for the first 5 years of the proposal. It will do this over the course of the entire proposal, i.e. after Year 13, however in the medium term it does not... therefore they are contrary to these policies"*.

368. This is not a reasonable or accurate assessment. The evidence from Mr Hamill, Dr Ausseil and Ms Hammond is that most of the benefits/mitigation will accrue within 5 years rather than 13. Continued short-term effects are unavoidable but will be significantly mitigated after year 2. The overarching intent of these policies is to protect surface water bodies, which in my opinion, based on the Joint Witness Statement (Aquatic Ecology) will be achieved.

369. Policy P62 promotes discharges to land over direct discharges to water. The officer's report (page 66) states "*The application does not contain sufficient detail on whether the land discharge component can actually sustain the proposed discharge to land, so on the surface it appears that the application meets Policy P62, but in my opinion, based on the PDP report, the ability to undertake the discharge to land over discharge to*

water has not been proven. I therefore believe that the activity is contrary to this policy."

370. This policy is clearly met because the proposal is to move to discharge to land with most of that occurring within 5 years. I do not understand the relevance of the officer's comments regarding detail on land discharge component. There is sufficient information that the land discharge component is sustainable and practicable.

371. **Policy P66** (National Policy Statement for Freshwater Management requirements for discharge consents) emulates Policy 5.2.10A 1 in the Operative Freshwater Plan. The officer's report (page 66) states: *"The proposal will be having measurable adverse effects on aquatic ecosystems for a period of at least 5 years, and up to 13 years at times … it could be argued that the proposal will meet the policy after year 5."* As discussed above, in my opinion, based on Ms Hammond's and Mr Hamill's evidence, I consider Policy P66 is met by the Project. The proposal needs to be looked at as a whole. There will be appreciable movement to attaining the NPS requirements within 2 years and it will be achieved within 5.

372. **Policy P67:** *Minimising effects of discharges - The adverse effects of discharges of contaminants to land and water will be minimised by…*

373. The officer's report (page 67) states: *"I consider that the proposal is contrary to this policy. This is because it does not minimise the adverse effects when it is discharging to water, and does not meet the water quality standards in P71 (see below) for a period of years".* As discussed in the AEE (page 167), above in my evidence and below, in my opinion the discharge does minimise the volume, loads, frequency and duration of discharges going to Donald Creek through the I/I reduction programme and switch to a land treatment scheme therefore the Project is consistent with this policy. The officers do not provide any evidence as to why they consider that the proposal fails to minimise. Nor do they indicate what else they consider should be done.

374. ***Policy P70:*** *Managing point source discharges for aquatic ecosystem health and mahinga kai*. The officer's report agrees that this policy is met as do I.

375. **Policy P71** sets out the water quality standards in the receiving water that must be met after the zone of reasonable mixing. As shown in Table 9 (revised assessment of the proposed activity against Policy P71), as agreed by Dr Ausseil (refer to evidence), Policy P71 will be mostly met by Stage 1B and fully met by Stage 2B.

Table 9: Revised assessment of the proposed activity against Policy P71 (PNRP)

Water quality standard	Compliance (N-No; Y-Yes; MB-maybe)				
The adverse effects of point source discharges to rivers shall be minimised by the use of measures that result in the discharge meeting the following water quality standards in the receiving water after the zone of reasonable mixing [SIC]:	**Existing**	**Stage 1A**	**Stage 1B**	**Stage 2A**	**Stage 2B**
a. below the discharge point compared to above the discharge point					
i. a decrease in the QMCI of no more than 20%, and	N	N	Y	Y	Y
ii. a change in pH of no more than ±0.5, and	**Y**	**Y**	**Y**	**Y**	Y
iii. a decrease in water clarity of no more than: 33% in River classes 2 to 6, (at flows less than median flow) and	N	**MB**	**Mostly Met**	**Mostly Met**	**Y**
iv. a change in temperature of no more than: 3°C in any other river, and	Y	Y	Y	Y	Y
b. a 7-day mean minimum dissolved oxygen (DO) concentration of no lower than 5mg/L, and	Y	Y	Y	Y	Y
c. a daily minimum DO concentration of no lower than 4mg/L.	Y	Y	Y	Y	Y

Source: Mott MacDonald, Technical Memo dated 7 August 2018. Note this table is the revised form based on the AEE with the revised changes are shown in bold.

376. The officer's report concludes that Policy P71 is not met due to the discharge not being minimised. As already discussed I disagree with this conclusion. The only way that the discharge to the stream could be further reduced is to bring forward Stage 2B. SWDC has concluded that

the benefits from doing that do not justify the costs of doing so. The evidence of Ms Hammond and Mr Hamill confirm that the greatest degree of mitigation/minimisation occurs by Stage 2A.

377. As discussed in the Mott MacDonald memo (7 August 2018), and Ms Hammond's evidence:
   a) The discharge will comply with most aspects of Policy P71 by Stage 1B.
   b) The exception is the proposed clarity standard which will continue to be breached on about 29 days per year on average during Stage 1B progressively increasing to full compliance at Stage 2B.
   c) That non-compliance is not predicted to cause any more than minor adverse effects on aquatic ecology.

378. Officer's report (page 68) states: "***Policy P72: Zone of reasonable mixing*** *…. Dr Ausseil considers that the zone of reasonable mixing is at 100 metres downstream of the discharge point."* This approach is considered reasonable.

379. ***Policy P82: Mana whenua values and wastewater discharges*** *Reasonable steps shall be taken to reflect mana whenua values …* The officer's report (Page 68) *states "SWDC consider that they have taken reasonable steps by preparing a CIA however as I have concluded in Section 9.5 above I consider that more work needs to be done in relation to cultural effects."* As discussed in the AEE, given the CIA, I consider that the that the intent of this policy has been met, however further dialogue with mana whenua submitters is considered prudent.

380. ***Policy P83****: Avoiding new wastewater discharges to fresh water - New discharges of wastewater to freshwater are avoided.* The officer's report suggests that the proposed discharge to water is *new* thus this objective cannot be met. For the reasons discussed earlier I disagree that the discharge is new.

381. ***Policy P95: Discharges to land -*** *The discharge of contaminants to land shall be managed by:*
(a) ensuring the discharge does not result in more than minor adverse effects to soil health, and (b) avoiding discharges that would create contaminated land, and (c) not exceeding the natural capacity of the soil to treat, use or remove the contaminant, and (d) not exceeding the available capacity of the soil to absorb and infiltrate the discharge, and (e) minimising effects on public health and amenity, and (f) not resulting in a discharge that enters water. The officer's report (page 69) states *"It is unclear as to whether the proposal will meet this policy or not".*

382. As discussed in the AEE (page 166), and along with the new information which is detailed in Ms Beecroft's evidence and Mr Simpson's evidence, (a), (b), (c), (d) and (f) are considered met. In regard to (e), it is considered that with the proposal of an alternative potable water source to the groundwater users at risk that this policy is met.

Relevant Policies of the PNRP not Commented on in the Officer's Report

383. The officer's report does not consider the existing discharge to be an existing activity and therefore did not assess the Project against several policies that are important as discussed in the AEE (page 168):

"Policy P76 and P81 encourages the reduction of I&I of stormwater and groundwater from entering the wastewater network, the quality of discharges to be progressively improved and the quantity of discharges to be progressively reduced….Policy P80 is especially relevant to the proposal." I consider that the project is not contrary to these policies.

District Plan Considerations

384. Site A is designated[28] in the Wairarapa Combined District Plan (WCDP) for 'Sewage Disposal' purposes. The proposed continuation of operations and

[28] Refer WCDP - Appendix 6 - Designation (Ds066); also illustrated on Planning Map 62.

new inlet screen upgrade at the FWWTP falls within the existing designated purpose. An Outline Plan of Works or waiver request will be submitted prior to any works on site associated with the upgrade of the FWWTP. The underlying Rural Special zone extends in a 500m radius from the FWWTP site and the FWWTP has been about for over forty years therefore reverse sensitivity issues arising from the treatment ponds may need to be disregarded.

385. Site B, proposed for treated wastewater irrigation, is not designated. As detailed in the AEE, Change 3 to the District Plan introduced new rules relating to the discharge of treated wastewater to land. Of relevance to this application is Rule 4.5.2 (permitted activity) which will be met.

386. Sites A and B that lie outside this Rural Special Zone are zoned for Primary Production.

387. A designation of Donald Creek Floodplain and Drain area (Ds016) for the purpose of the conveyance of water for flood mitigation purposes extends through the Site either side of Donald Creek.

388. For the sewer network upgrades, Rule 24.1.24(a)(vii) of the WCDP provides for the construction, maintenance and upgrading of '*underground pumping stations and pipe networks for the conveyance or drainage of water or sewage, and necessary incidental equipment'* as a permitted activity. No consent is therefore required for the Stage 1 I&I remediation programme.

389. As such, no consents are sought (or necessary) under the WCDP.

National Policy Statement For Freshwater Management

390. The matter of national significance to which the National Policy Statement for Freshwater Management 2014 (NPSFM, updated in 2017) applies is the management of fresh water through a framework.

391. Broadly, the NPSFM directs regional councils, in consultation with their communities, to set objectives for the state of fresh water bodies in their regions and to set limits on resource use to meet these objectives. Regional Councils required to make draft regional targets available to the public and the NPSFM must be fully implemented no later than 31 December 2025 (or 31 December 2030 in certain circumstances).

392. Some of the key requirements of the NPSFM are to:

- safeguard the health of people who come into contact with the water.
- maintain or improve the overall quality of fresh water within a freshwater management unit.
- improve water quality so that it is suitable for primary contact more often.
- follow a specific process (the national objectives framework) for identifying the values that tāngata whenua and communities have for water, and using a specified set of water quality measures (called attributes) to set objectives.
- determine the appropriate set of methods to meet the objectives and limits.
- take an integrated approach to managing land use, freshwater and coastal water.
- involve iwi and hapū in decision-making and management of fresh water.

393. As demonstrated in Mr Hamill's and Ms Hammond's evidence, the Project is consistent with the NPSFM. Key points are:

- Water quality will be progressively improved.
- Band B from ammonia standards will be met from as early as Stage 2A.

- Donald Creek is already generally swimmable and will only improve through the Project.
- Iwi have been involved and will continue to be involved via the proposed consent conditions (Tangata Whenua Values Monitoring Plan and Community Liaison Group).

394. As discussed in the AEE (page 254) and officer's report (page 47-48), GWRC has established the Whaitua process as the means of progressively setting these objectives and limits in the Regional Plan. Once the Whaitua sections of the PNRP are complete, the PNRP will fully give effect the direction of the NPSFM to set freshwater objectives and limits to meet to these objectives. It is considered that the intent of Whaitua is likely to be met by the Project.

395. Overall it is considered that the Project is consistent with the NPSFM.

National Environmental Standards – Drinking Water

396. The National Environmental Standard for Sources of Drinking Water of Human Drinking Water 2007 (NESDW) came into effect on 20 June 2008 and has since been reviewed[29] ("NESDW review") by the Ministry for the Environment (MFE).

397. The purpose of the NES is to reduce the risk of human drinking water sources becoming contaminated. A human drinking water source is a natural water body such as a lake, river or groundwater, used to supply a community with drinking water. The standard applies to source water before it is treated and only sources used to supplying human drinking water i.e., not stock or other animals. Section 7 of the regulation states as follows:

[29] MFE, December 2018. *Review of National Environmental Standard for Sources of Human Drinking Water Summary Report*. http://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/Review-of-the-Drinking-Water-NES-Summary-Report-final.pdf

"A regional council must not grant a water permit or discharge permit for an activity that will occur upstream of an abstraction point where the drinking water concerned meets the health quality criteria if the activity is likely to –

a. introduce or increase the concentration of any determinands in the drinking water, so that, after existing treatment, it no longer meets the health quality criteria; or

b. introduce or increase the concentration of any aesthetic determinands in the drinking water so that, after existing treatment, it contains aesthetic determinands at values exceeding the guideline values."

398. The NESDW review (2018, page 22) states *"the findings and evidence gathered in the review of the Drinking Water NES are consistent with the findings of the Government Inquiry into Havelock North Drinking Water. This indicates that the issues identified by the Inquiry are not confined to Hawke's Bay and water supplies in other regions may also be exposed to a risk of contamination. To improve the effectiveness of the Drinking Water NES the Inquiry recommended many specific changes to the regulations, including:*

• using source protection zones to define the spatial area to which the regulations apply;

• extending the scope of the regulations so they apply to:

– land-use activities that pose a risk to drinking water sources, including activities governed by district plans;

– registered drinking water supplies serving 25 or more people;

• requiring regional councils to inform drinking water suppliers and local health authorities of any consent applications with a potential to pose a risk to drinking water sources;

• redrafting the regulations so they are easier to interpret and apply. The Government is considering these recommendations, along with the findings of the review of the Drinking Water NES, as part of a system-wide review of the drinking water regulatory framework in New Zealand."

399. Groundwater protection zones have been outlined in a GNS (2017) report[30] and the school bore is not within these zones.

400. As per the AEE (page 149), a high-level assessment was undertaken on the nearest registered drinking source (South Featherston School Well) that is located 1 km to the **east** (corrected from west) of the FWWTP Scheme. Overall, the AEE (page 149) concluded that the proposal is considered to comply with this NESDW. As discussed above and as per Mr Simpson's assessment, the school bore is considered unlikely to be affected from the proposed scheme and is not within a groundwater protection zone therefore the proposal is considered consistent with the NESDW (2007) and NESDW review (2018). However, it is considered prudent that the groundwater and public health experts discuss the implications of the NESDW (2018) review and this assessment to confirm this conclusion.

National Environmental Standards - Contamination - Possible Consents

401. The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 ('NES-CS') applies where land has been used for one of the hazardous activities. These activities and industries, listed on the Hazardous Activities and Industries List (HAIL), are considered likely to cause land contamination. The October 2011 HAIL list includes land used for wastewater treatment.

402. There does not appear to be a consent requirement for the land treatment scheme outside of the FWWTP site as pastoral farming which is not on the HAIL list however a preliminary site investigation may need to be undertaken to confirm that no consent is required.

[30] GNS (2017). Groundwater protection zones for drinking water supply wells in the Wellington Region. Found: http://pnrp.gw.govt.nz/assets/Uploads/HS6-Appendix-J-Groundwater-protection-zones-for-community-drinking-water-Toews-2017.pdf

403. Any works (e.g. inlet screen works) that trigger consent under the NES-CS will be assessed and applied for if required during the detailed design phase.

ANNEXURE 4: SUBMISSIONS & OTHER OFFICER's REPORT MATTERS

Response To Submissions

404. I have limited my assessment of the submissions below to the key overarching issues. There are a number of submissions that suggest that the effects on the environment are not adequately assessed and are unacceptable and each of the experts have considered submissions in more detail in their evidence. The result of the conclusions of the expert's is that I consider that all of the submitter's concerns can be dealt with through consent conditions.

Suggested errors in AEE

405. The officer's report (page 14) states *"It should be noted Schedule F1 classifies Abbotts Creek and all its tributaries as a 'significant river'. However, the map (map 13a and 13b) only shows the reach of the creek upstream of Donald's Creek. It is my opinion that the words in the objective and its table take precedent over the maps."* Figure 14 in the AEE and Aerial 1 in the officer's report (page 7) show's that Abbots Creek is downstream of the FWWTP. This is incorrect. Abbots Creek changes name to Otauira Stream at about the Featherston township. Alongside the FWWTP and downstream of the FWWTP the stretch of stream is called Otauira Stream as referred to in Land Information New Zealand (LINZ) topographical map (see Annexure 2). My understanding is that the LINZ maps take precedence. Mr Hamill's discusses these points in his evidence. Depending on the confirmation of the correct name of the stream in question, the proposed consent conditions regarding Abbott's Creek may need amending.

406. Some submitters[31] have raised concerns about mapping errors in the AEE with regard to sensitive receptors (AEE, Figure 10, page 91). Mr Lawrence Stephenson, Ms Katie Beecroft, Mr Chris Simpson and Mr McBride have addressed these "sensitive receptor map" errors in their evidence. It is acknowledged that bores located on the maps in the AEE were based on GWRC records and these records that may be incomplete or have map location errors (e.g. if the bore locations are based on map estimates, global positioning system errors and the like). Subsequently in December 2018, SWDC sent letters to all properties within the five-year groundwater travel "envelope" (see Mr Chris Simpson's evidence) requesting that details of water sources and use on these properties are provided to SWDC for further assessment in regard to pathogen risk.

407. The submission from Mr Garrick Emms points out that there is an error when describing the location of South Featherston School Well. The AEE (page 149) states that the school's well is location 1km west when in fact it is located 1km east. The well location is correctly shown on Figure 21 (AEE, page 150) and has been assessed in Mr Simpson's groundwater assessment has used the correct well location details. The assessment shows that the school well is not located within the expected groundwater flow path from the land treatment scheme discharge.

408. Some submitters have commented that the population estimates for Featherston are incorrect. The officer's report (page 2) has considered the population estimates and suggested *"an increase in population of around 3.8% may need to be addressed by the application at or prior to the hearing."* Mr Lawrence Stephenson and Mr Steve Couper have confirmed (in their evidence) that this level of population growth can be catered by the FWWTP as there is capacity in the treatment pond. I note that the latest Census population data will be released in April 2019 and can be addressed at the hearing if required.

[31] Submitter #9, #44, #47, #51, #59, #63, #77, #107, #110, #117, #118, #137 and #145.

409. A number of submitters have raised concerns over the information used in the AEE regarding wind speed and prevailing direction. Ms Katie Beecroft's and Mr Lawrence Stephenson's evidence has considered these submissions and has concluded that there will be no odour or aerosols beyond the boundary of the FWWTP site and that tree shelter belts can be planted around the perimeter of the FWWTP land treatment scheme site to further mitigate effects. Proposed conditions of consent have bene developed to manage the effects of odour, spray drift and wind.

Submissions on Environmental Effects

410. A number of submitters do not agree with any the continued discharge to Donald Creek during winter months due to water quality effects and the like. As discussed above, the residual discharge to water and land treatment scheme is considered the BPO, and the resulting effects on Donald Creek are considered no more than minor after Stage 2B, therefore I consider the submitters matters have been addressed.

411. Some submitters have stated that properties near to the FWWTP land treatment scheme have devalued or will devalue. This is not an RMA matter that can be considered.

412. Some submitters have commented that the cost of land has increased in the past few years and that there is a shortage of land for residential development. I note that this is outside the scope of this consent application and Project but I understand that SWDC purchased Hodder Farm in 2014 which was before property prices rose sharply across New Zealand. This raises the question that if SWDC wished to purchase the same land now for wastewater treatment scheme it would make the scheme costlier and raises the question SWDC could afford to buy the land now based on its current value. However, SWDC and I have not assessed this matter.

413. I have not assessed land scarcity matters in the district and I am not aware of any proposed plan changes for re-zoning. I note that the district plan

provides for residential growth through zoning and plan changes may be made by SWDC and private changes could be made should there be a need.

414. There are a number of submissions that have expressed concern about the public health risk groundwater users down gradient of the scheme. I agree with these submissions. Groundwater and viral risks which have been assessed by Mr Simpson and Mr McBride's. The result is that identified groundwater users at risk require avoidance measures which have now been proffered in conditions. Some submitters have suggested further monitoring of groundwater quality. This matter has been addressed in Mr Chris Simpson's evidence.

415. Submissions have been received on the potential impacts on the heritage sites: Longwood House and the observatory. Ms Katie Beecroft's evidence has considered these submissions and has concluded that these sites will not be impacted by the Scheme.

416. Some submitters have raised concerns over the potential impacts on recreation at Lake Wairarapa. As discussed in my evidence above, Ms Hammond and Mr McBride consider that the effects on recreation are likely to be no more than minor.

417. One submitter[32] raises concern that the proposed land treatment scheme may overlay a pa site Tau Wharerata but acknowledges that the exact location of this pa site is not known. I am not aware of this pa site. I note that this matter has not been raised by other submitters[33] that may possess this knowledge. Standard "archaeological stop works" consent conditions could be adopted in order to mitigate effects on any archaeological items that may be present below the ground that are found during any minor earthworks on site.

[32] #110 Marguerite Mary Tait-Jamieson.
[33] For example submitter #126 Heritage New Zealand Pouhere Taonga and submitters #76 and #60.

418. Marguerite Mary Tait-Jamieson and a number of other submitters also raises a number of points regarding the impacts on tourism. Mr Stephenson has proffered a condition on planted shelter belt along the perimeter of the land treatment Scheme which will help with amenity and lessen any potential impacts on tourism.

419. Marguerite Mary Tait-Jamieson and other submitters also raise concerns about the impacts of the Scheme on foraging for food within the land scheme footprint and public health risks. In my opinion, as confirmed by Mr McBride, Mr Stephenson and Ms Beecroft, these risks will be mitigated by warning signage, fencing and planted shelter belts.

420. I note that there are fifteen pro forma submissions opposing the proposal that do not require an explicit response from SWDC.

421. A number of submitters have stated that the 35 year consent duration that is sought is too long and shorter consent durations may be appropriate. I deal with this matter later in my evidence.

Submissions from Local Tangata Whenua

422. I have considered the submissions from SWDC Maori Standing Committee and from Pae tu Mokai O Tauira (a Featherston based iwi group). Both these submitters raised concerns about cultural effects from the discharge to water and I acknowledge that adverse effects on cultural values will continue given that there is an ongoing discharge to surface water. As outlined above I would like to hear from those submitter's and discuss their concerns to determine if further mitigation is required.

Proposed changes to consent conditions and consideration of conditions raised by submitters

423. Annexure 5 shows the proposed consent conditions as per the AEE with track changes.

424. Schedule 1 (Conditions 3, 6 and &) sees the introduction of the requirement of a Riparian Planting Plan (required within 18 months) as per Mr Hamill's recommendation. The purpose of the riparian planting is to provide additional benefit to aquatic macroinvertebrates and fish and provide further mitigation of the residual minor effects of the discharge.

425. As recommended by Mr McBride, taking a conservative approach, norovirus sampling pre and post UV disinfection is to be undertaken quarterly for the first year of commencement of consent and then annually thereafter (see change to Schedule 6 of the proposed conditions).

426. As discussed by Ms Beecroft, the proposed activity will result in effects to Longwood Homestead which are less than minor, and there will be no impact on Carkeek Observatory. Despite these minimal effects I consider it reasonable for SWDC to consult with Longwood House owners and Heritage New Zealand (as requested through their submission) through whichever consultation method is considered suitable between the parties as part of an information sharing exercise as and when required. Accordingly, I recommend that proposed condition 7 of Schedule 1 is amended to include *"Consultation methods with Longwood House owners and Heritage New Zealand."*

427. Proposed conditions 7 iii (Schedule 1) and 11 (Schedule 2) have been amended to allow for flexibility for where the stream flow measurements are taken and the frequency of flow gaugings is to be based on the need for gauging and the stream rating curve (if applicable i.e. if a surrogate flow site is required for correlating flows).

428. Proffered Condition 17 of Schedule 4 (i.e. alternative potable water supply to groundwater receptors) has been added as discussed above in my evidence.

429. Conditions 2, 38 and 39 of Schedule 1 has been amended to reflect Stages 2A and Stage 2B being brought forward as discussed above (refer Table 1).

430. I note that Dr Jill McKenzie, Medical Officer of Health, on behalf of Regional Public Health (submitter #124) has requested review condition that deals with emerging contaminants of concern (EOC). Proposed condition 37 (Schedule 1) allows for a review of conditions to be undertaken by GWRC annually. In my opinion, this condition is sufficient to facilitate a review on EOCs. I note that some WWTPs around New Zealand already monitor for EOCs and the information and findings from these WWTP's could translate to Featherston.

431. The proposed condition and advices notes requested from Powerco (submitter #130) have been largely adopted verbatim (as they are considered standard practice) with my suggested changes shown in bold which are suggested for flexibility. See Schedule 4 proposed conditions and advice notes 18 to 21.

OTHER S42A OFFICERS REPORT MATTERS

432. The officer's report (page 39) states "*Submitters have raised concerns regarding a lack of effective consultation undertaken by the applicant on this proposal. GWRC suggested on a number of occasions that it would be useful for the GWRC and SWDC experts to work together on the proposal and come to some agreed environmental bottom lines. GWRC also suggested to the applicant that it should hold workshops with the Featherston community to allow all parties to express their concerns and provide feedback on the proposal and the process, and offer time to all residents adjacent to the land application site so they could fully understand the effects of the proposal on them.*

433. I was not involved in any of the earlier work in the AEE and alternatives assessment but I agree that workshops are good practice. I note that

consultation was undertaken with neighbouring property owners by Mr Stephenson and Ms Beecroft as discussed in their evidence. I also note that environmental bottom lines are set in the RMA and NPSFM as well as the relevant plans. As discussed above, the intent of the alternatives assessment and MCA BPO process was based on meeting s107 RMA environmental bottom lines as directed by GWRC that the experts (Ms Hammond and Mr Hamill) and I consider these will be met.

ANNEXURE 5: PROPOSED CONDITIONS – TRACK CHANGED

TO BE PROVIDED