greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Report to the Hearing Committee on a notified resource consent application

Summary of application

Activity:	To discharge contaminants to land, air and water associated with the proposed long term upgrade and operation of the Martinborough Wastewater Treatment Plant.
File Reference:	WAR120258
Applicant:	South Wairarapa District Council 19 Kitchener Street Martinborough 5711
Address for Service:	South Wairarapa District Council Geange Consulting PO Box 213 Carterton 5743
Consents Sought:	**[31707]: Discretionary Activity** Discharge permit (Water) – to discharge treated effluent into the Ruamahanga River through the whole term of the consent **[32044]: Discretionary Activity** Discharge permit (Land) – to discharge treated effluent to land adjacent to the plant (Stage 1B) and the Pain Farm (Lake Ferry Road)(Stage 2A and 2B) **[32045]: Discretionary Activity** Discharge permit (Air) – to discharge contaminants to air (odour from the ponds and treatment process, and effluent associated with land application) **[33045]: Discretionary Activity** Discharge permit (Land) – to discharge contaminants to land and water via seepage from the ponds and channel

Location:	**Martinborough Wastewater Treatment Plant** - Dublin Street, Martinborough **Pain Farm** - Lake Ferry Road, Martinborough
Map Reference:	At or about map reference: NZTM: 1804586.5434856 (Martinborough WWTP) NZTM: 1803773.5432952 (Pain Farm)
Legal Description:	**Martinborough Wastewater Treatment Plant –** Lot 1 DP44557 Lot 5 DP87782 Blk Huangarua SD **Pain Farm –** PT Sec 5 Wharekaka Dist Blk IX Huangarua SD
Recommendation:	I recommend that the above consents be granted subject to conditions for the reasons outlined in this report.

Report prepared by:	Nicola Arnesen	Senior Resource Advisor, Environmental Regulation		8 April 2015
Report peer reviewed by:	Paula Pickford	Senior Resource Advisor, Environmental Regulation		8 April 2015
Report approved by:	Alistair Cross	Manager, Environmental Regulation		8 April 2015

Qualifications of reporting officer

I have 16 years' experience in the Planning and Resource Management field. I have held the role of Senior Resource Advisor, Environmental Regulation at Greater Wellington Regional Council for approximately six years and prior to this I was a Senior Planner at Opus International Consultants, Planner at Christchurch City Council and both a Resource Advisor and Policy Advisor at Greater Wellington. I hold a Bachelor of Resource and Environmental Planning from Massey University and a Bachelor of Arts with First Class Honours from Canterbury University.

Contents

Appendices:

Reasons for decision: Resource consent WAR120258 [31707, 32044, 32045, 33045]

South Wairarapa District Council – Martinborough Wastewater Treatment Plant

1. Purpose

This report provides an analysis of the resource management issues in respect of WAR120258 [31707, 32044, 32045, 33045], an application by South Wairarapa District Council (SWDC) to obtain discharge permits from Greater Wellington Regional Council (GWRC) under the Resource Management Act 1991 (RMA).

The assessment and recommendations contained in this report are not binding on the Council or the Commissioners. This report has been prepared without knowledge of the content of any evidence or submissions that will be made at the hearing; consequently it cannot be assumed that the Commissioners hearing the application will reach the same conclusions as those provided in this report.

2. Background

2.1 General

SWDC administers and manages the districts four wastewater systems, namely Featherston, Greytown, Martinborough and a small community system at Lake Ferry. The consent application which is the subject of this report focuses on the discharges associated with the staged upgrade and operation of the Martinborough Wastewater Treatment Plant (MWWTP).

The MWWTP services a population of 1,500 people and flows are predominantly domestic with a small contribution of wastewater from light industrial and commercial activities (estimated by the applicant to be a maximum 5%). There are seasonal fluctuations for short periods, mainly due to an influx of people for local events such as the Martinborough Fair and Toast Martinborough.

The applicant states that the population in this area has increased by 8.4% since the 2001 census and zero growth has been assumed on the basis of 2012 Statistic New Zealand population projections out to 2031. This population statistic provides information on the next 15 years, however, the AEE did not provide an estimate on what population growth would be for 35 years (the term they are requesting).

The MWWTP was initially constructed in 1975 and consists of an (unlined) primary oxidation pond system with gravity flow from the incoming sewer main. There are four lined maturation cells, a lift pump station and UV disinfection (installed November 2011) and then the treated effluent is gravity fed into the Ruamahanga River via a 50 metre unlined outfall channel.

A full detailed description of the existing system can be found on pages 16 and 17 of the Assessment of Environmental Effects (AEE) lodged with the application '*Martinborough Waste Water Treatment Plant - Proposed operation upgrade and maintenance to 2047 - Application for Resource Consents, Activity, Description and Assessment of Environmental Effects. 6 April 2014'*.

It is important to note that the applicant is concurrently applying for resource consents associated with the staged upgrade and operation of Greytown (WAR080254) and Featherston (WAR120294) Wastewater Treatment Plants. The applicant has developed a draft SWDC Wastewater Strategy[1] to plan for resource consenting requirements, investigations and infrastructure upgrades required at all three wastewater treatment plant sites. This strategy takes into account a number of key factors such as financial constraints and the need to develop the best practicable option.

2.2 Existing consents

2.2.1 Process timeline and continuation of activity under Section 124(2)

The applicant holds consent WAR970079 [30753 and 20870] to discharge treated sewage to Ruamahanga River and discharge associated contaminants to air. WAR970079 [30753] is for the discharge to water and expired on 10 July 2012, and WAR970079 [20870] is for a discharge to air and this expires on 10 July 2022. The applicant is including the discharge to air consent in this consent application process for completeness and to align expiry dates.

The applicant lodged consent application WAR120258 on 11 April 2012 and GWRC exercised its discretion under section 124(2) of the RMA to allow the discharge of contaminants to water from the operation of the MWWTP to continue until the current consent application is determined.

During the course of the next two years there was a process of various drafts and comments from GWRC (and their experts) to SWDC until the final application was lodged on the 6 April 2014. After GWRC expert review, the application was placed on hold under Section 92 of the RMA on 12 May 2014 in order to seek further information from the applicant. This information was provided by the applicant and satisfied the information request, and as such the application came off hold on 2 June 2014.

Section 37 of the RMA was used to extend the timeframes for decision on notification to cover the review of the various drafts and from receipt of all further information, and also from close of submissions until the date of holding a hearing.

2.2.2 Compliance History

The compliance from the site has been varied over the last few years and SWDC have historically had a poor compliance history with the MWWTP. The discharge to water component of the consent has had a rating of either

[1] Refer to Appendix 1 of the AEE

environmental or significant non-compliance (the last three compliance reports are attached in Appendix 2).

The main breach of consent has been for condition 15 where the discharge is continually having localised significant effects on periphyton growth and cover, and sensitive macroinvertebrates.

GWRC and SWDC have been collaborating at officer level over the last few years to build relationships in the area of compliance and discuss annual reports, compliance ratings and what needs to be done at the site to sort out the continual breaches. Over the last three compliance years, GWRC made a decision not to take any enforcement action because we considered that SWDC had addressed the issues raised in the compliance report in their AEE lodged for this resource consent. GWRC considered time and money (for both SWDC and GWRC) was best focussed on positively moving forward on the consenting process to improve the treatment and disposal systems and reduce the effects on the environment rather than on formal enforcement action.

2.2.3 Previous variation to consent

In their submission Sustainable Wairarapa raises the previous consent variation and concerns regarding whether or not the reasons for this variation were ever achieved by SWDC.

In 2011 a variation (WAR970079 [30753]) was sought by SWDC under Section 127 to lower the wastewater quality standards, as since WAR970079 [2624] was granted, they had been unable to meet the wastewater quality standards for the discharge outlined in the conditions of consent.

This variation was sought after much discussion with GWRC and was done with a view to investing in and progressing a long term plan of discharging the effluent to land. This variation was publicly notified however no hearing was held as all parties signed waivers of right to be heard, and consent was granted under delegated authority by Manager, Environmental Regulation.

The installation of an ultraviolet treatment system (UV) to improve biological quality of the discharge was part of this variation (condition 7). The UV system was installed in November 2011.

Since the consent was varied, SWDC have continually breached the lowered water quality standards that were put in place under condition 7 in relation to E.coli, Ammonia and Nitrogen (see compliance reports in Appendix 3 of this report).

2.2.4 Other wastewater consents in the region

For information purposes, I consider that it is important to provide some brief facts about other WWTP consents in the Wairarapa.

The Masterton District Council (MDC) was granted consent in 2009 (WAR090066) for a 25 year consent term to operate their wastewater treatment plant. This consent allows the discharge of treated wastewater and storm water

to water, specifically to the Ruamahanga River and the Makoura Stream, and to land via an irrigation system (border dykes). The MDC consent can be considered a predominately discharge to land consent with storage in place over the summer.

The Carterton District Council (CDC) was granted a short term consent in 2013 (WAR090120) for a four year term to operate their wastewater treatment plant. This consent allows for the discharge of treated wastewater through a combination of discharge to the Mangatarere Stream and to land. At the end of 2014 CDC was granted short term consent (to allow it to be aligned with the expiry date for WAR090120) to discharge treated wastewater to land by way of a centre pivot using deficit irrigation. The CDC consent can be considered to be primarily a discharge to water consent with effluent going to land during summer low flows.

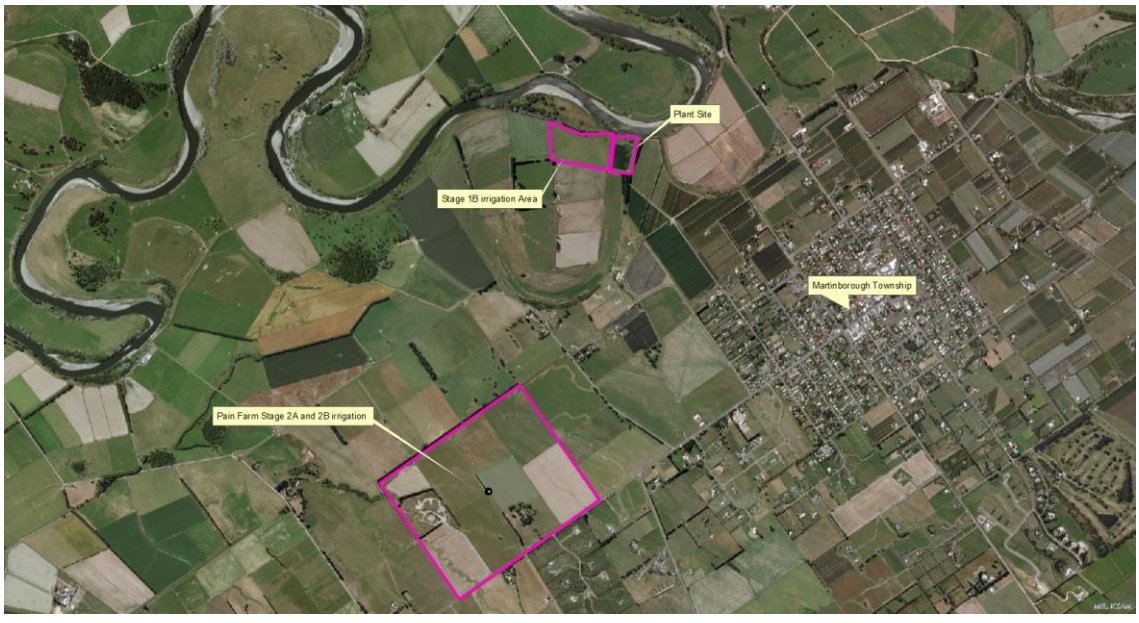
3. Location

The MWWTP is located at the end of Dublin Street, Martinborough, accessed via an adjoining private property. The site containing the MWWTP itself is comprised of 3.47ha and is located approximately 1km to the north-west of the Martinborough urban boundary and 1.8km straight-line distance from the town centre. The plant is adjacent to the Ruamahanga River and the point of discharge is located at NZTM: 1804575.5434994.

The land adjacent to the plant site (where effluent is proposed to be discharged) is also owned by SWDC (8 ha) and like the plant site is also adjacent to the Ruamahanga River.

The Pain Farm site is also Council owned land and is located on Lake Ferry Road, approximately 1.7km from the plant site and 0.6km from the Martinborough township.

The sites are shown marked on the map below.



4. Proposal and description of activities

The applicant provides a thorough description of the proposal and the detail of how the system will operate in their Assessment of Effects (AEE) on pages 22-32[2] and so I will not repeat this all in my report.

It is important to note here for clarification that the flows referred to in the AEE are based on actual flows which have been recorded by SWDC, as opposed to the flows which were previously consented. Therefore SWDC are not increasing the volume of discharge as such, these flows are just a more accurate representation of what is occurring.

Also for clarification, throughout my report I have calculated timeframes for each stage of the proposal assuming consent would commence at the start of July 2015. The AEE outlines various Management Plans which will be prepared within certain timeframes after the commencement of this consent and I have referred to these plans throughout my report. I have also recommended in my report the need for a Land Discharge Management Plan to cover aspects of the different land areas proposed for irrigation given the lack of information on site conditions and limitations contained within the AEE and the uncertainty this creates. Each of these plans must have the approval of the Manager, Environmental Regulation. GWRC supports and is comfortable with the use of Management Plans, as we have used them in major land development and Roads of National Significance projects across the region.

In summary the proposal is split into four main stages (see diagram from the AEE attached in Appendix 3:

- **Stage 1A** involves a series of minor upgrades to the existing wastewater treatment plant (WWTP) to improve and optimise its performance. This stage is outlined in the AEE to begin at the commencement of this consent and occurs for the first two and a half years of the consent;

- **Stage 1B** involves the discharge of 24% (52,731m^3) of treated wastewater (on an annual basis) to 5.3ha of vacant land at the MWWTP site during low-flows in the Ruamahanga River (to be measured when the river is below half median flow at Waihenga Bridge). A detailed design and an Effluent Discharge Management Plan will be prepared and submitted to GWRC within 12 months of the commencement of the consent. However at this stage the AEE outlines that the discharge will likely be by way of surface sprinkler irrigation system, and a maximum application rate of 15mm/day in any 24 hours is proposed with a three day rotation, which equates to a maximum weekly application rate of 35mm. This stage also includes Infiltration and Inflow work being undertaken to reduce flows from the site. This will be a non-deficit irrigation regime where the likely limiting factor will be the hydraulic application rates for the soils, rather than nutrient limits.

[2] *Martinborough Waste Water Treatment Plant - Proposed operation upgrade and maintenance to 2047 - Application for Resource Consents, Activity, Description and Assessment of Environmental Effects. 6 April 2014.*

This stage is outlined in the AEE originally lodged in 2012 to commence no later than 31 December 2015, however this has subsequently been amended by the applicant to be no later than 1 November, 2017[3]. This stage occurs for a period of 13 years of the consent;

- **Stage 2A** involves the irrigation of 42% (93,200m^3) of annual wastewater to Pain Farm (a Council owned property) and at this point in time the discharge onto the adjacent land which is undertaken during Stage 1B will cease (as this land is potentially required for Stage 2B storage). Discharge will only occur in the Ruamahanga River when there are capacity issues in the ponds and where the river is at more than three times median flow.

  A detailed design and an Effluent Discharge Management Plan will be prepared and submitted to GWRC within 12 months of the commencement of the consent. However at this stage the AEE outlines that the discharge will be by way of spray irrigation equipment, such as centre pivot, and at a maximum application rate of 9.6mm/day using a deficit irrigation regime. The Stage 2 land treatment area will be used to grow high nutrient uptake crops, in a cut and carry operation and harvested crops are proposed in the AEE to be sold. The effluent will be piped to the Pain Farm by way of a pumping (located at the Stage 1B site) and distribution system.

  This stage is outlined in the AEE to commence no later than 31 December 2030, and will operate without Stage 2B for a period of five years;

- **Stage 2B** involves the construction of additional storage at the MWWTP or Pain Farm to contain all treated wastewater, other than in extreme weather events. The location of the storage will be confirmed during detailed design stages and in the Effluent Discharge Management Plan which will be prepared and submitted to GWRC within 12 months of the commencement of the consent.

  This stage is outlined in the AEE to commence no later than 31 December 2035 and once in place will operate in conjunction with Stage 2A to be the operation system for the MWWTP.

5. Statutory reasons for requiring resource consents

5.1 Resource Management Act 1991

Section 15 of the RMA places restrictions on the discharge of contaminants into the environment. The activities proposed by the applicant are not permitted as of right under this section of the RMA or by the regional plans; therefore resource consent is required. The relevant parts of Section 15 and the definition of contaminant are outlined below.

[3] This was confirmed by the applicant to GWRC in an e-mail dated 19/3/2015.

Section 15 states that -

> *No person may discharge any*
>
> *(a) contaminant or water into water; or*
>
> *(b) contaminant onto or into land in cirucmstances which may result in that contaminant…entering water; or*
>
> *(c) contaminant from any industiral or trade premises into air; or*
>
> *(d) a contaminant from any industrial or trade premises onto or into land -*
>
> *unless the discharge is expressly allowed by a national environmental standard or other regulations, a rule in a regional plan as well as a rule in a propoesed regional plan for the same region (if there is one), or a resoucre consent.*

The definition of contaminant in the RMA (paraphrased) includes

> *…any substance…that either by iteslef or in combination with the same, similar or other substacnes, energy or heat –*
>
> *(a) when discharged into water, changes or is likely to change the physical, chemical, biological condition of water; or*
>
> *(b) when discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air into which it is discharged.*

5.2 Regional Freshwater Plan

Rule 5 of the Regional Freshwater Plan (RFP) specifies that the discharge of any contaminant or water into freshwater which is not provided in other rules of the plan, is a **discretionary activity**.

The application proposes to discharge treated wastewater effluent to the Ruamahanga River throughout the term of the consent and this activity is not provided for in any rules of the RFP, therefore Rule 5 applies.

5.3 Regional Discharges to Land Plan

Rule 8 of the Regional Discharges to Land Plan (RDLP) specifies that any discharge containing human sewage onto or into land which is not provided for in other rules of the plan, is a **discretionary activity**.

The application proposes to:

- discharge effluent into land through the open channel which discharges the treated effluent from the MWWTP to the Ruamahanga River;

- discharge effluent to land through the bottom and sides of the MWWTP ponds (seepage);

- discharge treated effluent to land to the MWWTP Adjacent Block (Stage 1B); and

- discharge treated effluent to land at Pain Farm (Stage 2A)

These activities are not provided for in any rules of the RDLP, therefore Rule 8 applies.

5.4 Regional Air Quality Management Plan

Rule 23 of the Regional Air Quality Management Plan (RAQMP) specifies that any discharge to air not otherwise provided for in the plan is a **discretionary activity**.

Rule 21 of the RAQMP deals with the issue of sewage treatment and disposal and (1)(a) specifically excludes municipal sewage. Therefore Rule 23 of the RAQMP applies.

6. Notification and submissions

6.1 Notification

The application was publicly notified in the Wairarapa Times Age and the Wairarapa News on 9 July 2014. In addition two signs were installed, one at the registered entrance to the site of the Wastewater Treatment Plant (Dublin Street) and a second one on Lake Ferry Road where the discharge to land will occur (the Pain Farm).

A copy of the public notice is attached in Appendix 4 of this report.

Notice of the application was served on 39 parties which were deemed to be affected or interested parties.

6.2 Submissions

At the close of submissions on 6 August 2014, 13 submissions had been received. A further three submissions were received after the close of submissions.

Therefore a total of 16 submissions were received. One submission was received in support of the proposal, and 10 submissions were received in opposition. Five neutral submissions were received.

A summary of all submissions received and the issues raised is attached as Appendix 5 to this report.

6.3 Late submissions

As identified in Section 6.2 of this report, three late submissions were received.

Under section 37(1)(b) of the RMA, a consent authority may waive a requirement to comply with a time limit for the service of documents (e.g.,

submissions). In making such a waiver, the consent authority is required by section 37A(1) of the RMA to take into account:

a) The interests of any person who, in its opinion, may be directly affected by the waiver;

b) The interests of the community in achieving adequate assessment of the effects of any proposal, policy statement or plan;

c) Its duty under section 21 to avoid unreasonable delay.

It was agreed with the applicant that under Section 37A(4) of the RMA that the submission period be extended for two working days until 8 August 2014 to allow for any late submissions to be accepted.

6.4 Issues raised by submissions

6.4.1 Issues raised by submissions in support

There was only one submission in support received. In this submission, the submitter did not raise any issues as such, just that they support the application.

6.4.2 Issues raised by submissions of conditional support or neutral submissions

There were five submissions received in conditional support or neutral and these covered a number of issues. The general issues raised in these submissions are outlined below:

- Support the fact that SWDC are progressively reducing discharge to water, however linked to this submitters would like to see timeframes reduced and improvements made quicker where possible;
- Support for land treatment but restriction needed on use of crops;
- Support for the integrated catchment management of all three sites along with overall wastewater strategy and issues of affordability;
- Concerns over significant community investments and important decisions being made without enough discussion, application be deferred;
- Support for the consent being deferred until Ruamahanga whaitua plan change occurs; and
- Support for the consent to have conditions for monitoring, reporting and also remediation for any breaches of consent. Including having this information placed on Council website for public viewing.

6.4.3 Issues raised by submissions in opposition

There were 10 submissions received in opposition and these covered a number of issues. The general issues raised in these submissions are outlined below:

- Concerns that enabling the discharge to continue into water will further degrade the water quality, recreational values, amenity values and trout fisheries of the Ruamahanga River;

- Concerns over property values (adjacent to Pain Farm);

- Strong concerns over 35 year term for consent;

- Opposition to continued use of waterways for effluent discharge;

- Concern over the wastewater strategy and issues of affordability, SWDC should consider financing upgrades through borrowing money;

- Environmentally responsible business in Martinborough have to factor wastewater management into their business models;

- Impact of runoff and groundwater contamination, which could also lead to effects on bore drinking water; and

- Concerns over odour from the plant and the discharge area.

7. Site visit

I conducted a site visit to the site on 16 May 2014 with Bill Sloan (Asset and Operations Manager, Infrastructure Services, SWDC). I was on site to undertake the annual compliance inspection and at the same time Mr Sloan showed me around the site. I also went and viewed the Pain Farm area.

In addition I visited both the plant site and the Pain Farm on 9 July 2014 when I placed the signs for notification at both sites.

8. Matters for consideration

This section sets out the framework that has been used to assess the application.

8.1 Statutory criteria

The requirements of the RMA that relate to the decision making process are contained within sections 104-116. The sections of particular relevance to this application are listed below, and the relevant sections of the RMA are presented in their entirety in Appendix 6 to this report.

The matters to which a consent authority shall have regard when considering applications for resource consents and submissions are set out in section 104(1) of the RMA as follows:

> *When considering an application for resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to –*
>
> *(a) any actual and potential effects on the environment of allowing the activity; and*

(b) *any relevant provisions of –*

i. *a national policy statement,*

ii. *other regulations,*

iii. *a national policy statement*

iv. *a New Zealand coastal policy statement,*

v. *a regional policy statement or proposed regional policy statement; and*

vi. *a plan or proposed plan; and*

(c) *any other matters the consent authority considers relevant and reasonably necessary to determine the application.*

The provisions of section 104 are all subject to Part II, which means that the purpose and principles of the RMA are paramount.

8.2 Planning instruments and other matters

The following planning instruments and documents are relevant to this application:

- The National Policy for Freshwater Management 2014;
- The Regional Policy Statement for the Wellington Region 2013;
- The Regional Freshwater Plan for the Wellington Region 2000;
- The Regional Plan for Discharges to Land in the Wellington Region 1999; and
- The Regional Air Quality Management Plan for the Wellington Region 2000.

The relevant provisions of the above-mentioned planning instruments are included as Appendix 7 to this report and are assessed in Section 11 of this report.

The actual and potential effects on the environment of allowing the activities are addressed in Section 9 of this report.

8.3 Matters relating to the grant of discharge permits

Section 105 of the RMA lists additional matters that a consent authority must have regard to when considering applications for discharge or coastal permits to do something that would contravene section 15 of the RMA. These matters are addressed in Section 9 of this report.

Section 107(1) of the RMA places restrictions on the grant of resource consents for the discharge of contaminants into water if they cause certain adverse effects in receiving waters after reasonable mixing. The effects listed in section 107(1) of the RMA are discussed in Section 9, and Section 107 is assessed in more detail in Section 10 of this report.

9. Assessment of actual and potential effects 104(1)(a)

The applicant has provided a comprehensive AEE for their application. In this section I have discussed the main effects which are of concern to GWRC under headings of each stage of the proposed upgrade, and this is then followed by assessment of effects which were raised in submissions, positive effects and then other matters.

9.1 Existing environment

9.1.1 Site, soils and groundwater

The MWWTP site and the discharge to the Ruamahanga River has been part of the existing environment since its construction in 1975.

According to GWRC records, the soil types for the MWWTP site, and the irrigation area adjoining the plant site, are Greytown silt loam and sandy loam, and Ruamahanga sand. The soil types for the Pain Farm site are Wharekaka mottled fine sandy loam.

The MWWTP site, and the irrigation area adjoining the plant site, are both located in the Tawaha groundwater zone, which is known as the Lower Ruamahanga Zone under the Proposed Framework for Conjunctive Management[4]. The Pain Farm is located in the Martinborough Terraces Groundwater Zone, which is known as the Martinborough Zone under the Framework for Conjunctive Management.

GWRC bore logs in the area of the Pain Farm all show a small level of silt with a mix of clays down to where groundwater begins below 20 metres. There are no bore logs for the WWTP or the area adjacent which will be used for the initial discharge to land. As these areas are adjacent to the Ruamahanga River it must be assumed that groundwater will be shallow and there will be a direct hydraulic link to the Ruamahanga River. This is confirmed in the Category A status (i.e. direct hydraulic link to surface water) given to the Lower Ruamahanga Groundwater Zone in this area.

The AEE states that from soil cores taken at the Pain Farm there is an area of topsoil underlain by silt loam and clays and that between 40 and 60cm there is a (hard) pan layer present[5].

[4] The Proposed Framework for Conjunctive Management is a report which came out of an investigation of the Wairarapa Valley groundwater resources by Brydon Hughes and Mark Gyopari and they prepared a report in 2011. The report recommended (amongst other things) a three tier management approach to managing groundwater abstraction, according to the potential impact on surface water. The concept of hydraulic connectivity is used in the report to differentiate those groundwater takes which have a direct and immediate effect on surfacewater. Category A status is given to the areas of the hydrogeological system where there is a direct hydraulic connection with surfacewater.
[5] Refer to page 43 of the AEE

9.1.2 Flooding

The plant site is adjacent to the Ruamahanga River and is located in the flood zone. I have spoken to Ranjan Cyril (GWRC Area Engineer, Southern Wairarapa) regarding the flood zone and the impacts on the MWWTP. Approximately five years ago GWRC upgraded the stopbank which protects the plant site. Although it has not yet been confirmed through modelling, Mr Cyril has informed me that the plant site will now be protected to a 1 in 50 year flood event. The irrigation 1 area (i.e. the land being used for Stage 1B) is also adjacent to the Ruamahanga River and as the stopbank upgrade did not include this area, this piece of land will still flood in a less than 1 in 50 year event.

The Pain Farm area is located some distance from the Ruamahanga River on an elevated terrace and is not considered to be in a direct Ruamahanga River flood zone. However, there are several water courses on the Pain Farm area and so it is my understanding that in a major flood event (eastern storm), it could be anticipated that there could be some surface flooding in the Pain Farm area, from the water courses within the site.

9.1.3 Ruamahanga River

The Ruamahanga River is a large catchment broken up into three sections, upper, middle and lower reaches. The Ruamahanga River (and the wider catchment) contains significant indigenous ecosystems and habitat[6]. There are known to be twenty native freshwater fish currently found in the catchment, 16 of which are diadromous and rely on a migratory connection to the sea. The Ruamahanga River via Lake Onoke provides this main migratory pathway between the ocean and freshwater for indigenous fish. Some examples of the native species found in the catchment are inanga, giant kokopu, brown mudfish and kakahi.

Whilst the upper reaches experience a high level of water quality and excellent ecosystem health, the middle and lower reaches do not, and there is a general decline in water quality correlating with the distance downstream in the river. This decrease in water quality is attributed to changes in land cover and land use practices, and the influence of point source discharges (such as the WWTP's)[7].

The section of the river from Gladstone Bridge to Pukio, experiences a 'fair' level of water quality, a decline in water clarity and an increase in E.coli counts[8]. It is in this section of the river that it receives discharges (directly or indirectly) from the Carterton, Greytown and Martinborough WWTP's, and so this is the section most relevant to this application.

9.1.4 Lake Onoke

Lake Onoke[9] is approximately 622ha in size and is the second largest lake in the Wellington region. It is located at the bottom of the Ruamahanga River

[6] Crisp P, Bunny T, Perrie A, July 2014. *Our indigenous species in the Ruamahanga Whaitua summary*, pp3, 6- 9.
[7] Watts L & Perrie A, June 2007. *Lower Ruamahanga River instream flow assessment; Stage 1: Instream flow issues report*, p 34.
[8] Bunny T, Milne J and Keenan L, July 2014. *River water quality and ecological health in the Ruamahanga Whaitua*, p10.
[9] Information on Lake Onoke can be found in - Perrie, A and Milne JR, Feb 2012. *Lake Water Quality and Ecology in the Wellington region: State and trends*. Pages 42-58.

catchment on the southern coast of the Wairarapa and it drains out in into the sea at Palliser Bay. The main inflow feeding Lake Onoke is the Ruamahanga River, however, there are also a few smaller tributaries which also feed into the lake. The water quality of the lake was studied as part of an ongoing monitoring programme for the two year period August 2009 to July 2011 and it was shown that the water quality is in a degraded state, water clarity is low and concentrations of nutrients are typically elevated and, at times, phytoplankton biomass is high.

9.2 Nature of effects of the current discharge and Stage 1A

Stage 1A involves a series of minor upgrades to the existing WWTP to improve and optimise its performance and these are outlined in the AEE[10]. There is no discharge to land component to the proposal during this stage. The effects from this stage on surface water and ecology of the river are outlined below.

Effects on surface water and ecology of the river in relation to Section 107 of the RMA

The effects on the surface water body and ecology of the Ruamahanga River have been assessed and reported on for GWRC by Dr Olivier Ausseil of Aquanet Consulting Limited. Dr Ausseil's report is attached as Appendix 8 of this report. Note that in this section I have focussed on the effects on aquatic life (Section 107(1)(g)) as Dr Ausseil has assessed and concluded that the other matters of Section 107 are met during this stage.

The current discharge from the site into the Ruamahanga River and Stage 1A are essentially one and the same. This is because Stage 1A involves a combination of the current discharge regime, along with a series of minor upgrades to the existing WWTP to improve and optimise its performance. Therefore, it is considered that the existing discharge from the site will remain the same right up until the end of Stage 1A (approximately the first two and half years from the commencement of the consent).

The Forbes Ecology report submitted by the applicant[11] has been reviewed by Dr Ausseil and he is in agreement with its conclusions (and notes that it was undertaken under very low flow conditions and so represents worst case scenario in terms of effects).

Dr Ausseil states in his report to GWRC, that the current and Stage 1A discharge is having a significant adverse effect on most indices of macroinvertebrate community at 200 metres downstream of the site, when compared to upstream of the site, with a return to upstream conditions at the 500m and 1000m downstream sites[12].

Dr Ausseil concludes that there are significant adverse effects on aquatic life in the Ruamahanga River '*…extending from the discharge point to at least between 200m downstream of the discharge. The section of river where significant adverse effects are caused by the discharge appears to be confined*

[10] Refer to pages 24 and 25 of the AEE
[11] Refer to Appendix 11 of the AEE
[12] Para 6.8 of Dr Ausseil's report

to an area along the river's true left bank…'. He then goes on to conclude: *'…The requirements of S107(1)(g) are met at 500m downstream of the discharge point. The exact point at which the effects reduce from significant (at 200m) to not significant (at 500m) is unknown…'*[13]

It is therefore known that the discharge is having a significant localised adverse effect from the discharge point to an unknown point between 200m and 500m. Then at 500 metres, these significant adverse effects cease. Whether or not there is a Section 107(1)(g) breach during Stage 1A is dependent upon where the zone of reasonable mixing (ZRM) is set. If the ZRM was set at 500 metres, then there would be no significant adverse effects beyond the ZRM, and therefore no Section 107(1)(g) breach. However if the ZRM is set at a point between 200 and 500 metres then there would be significant adverse effects beyond the ZRM (and until the point of 500 metres) and therefore there would be a Section 107(1)(g) breach.

The AEE does not provide any clear guidance or analysis on the ZRM, rather it recommends that within 15 months of the commencement of the consent, that a near zone river health study is done to confirm the ZRM[14]. Dr Ausseil provides some technical analysis in his report surrounding the factors to be considered when setting a ZRM.

I have had extensive discussions with Dr Ausseil on the ZRM and where this should be set. It is my opinion that when setting a ZRM, a logical and reasonable approach should be taken. In order to do this, I have considered the historic situation (previous officers report and compliance sample points), the technical ZRM matters set out in Dr Ausseil's report, the policy framework available (Policy 5.2.11 of the Regional Freshwater Plan) and RMA guidance/clarification documents (report '*No: 10 Reasonable Mixing; A discussion of reasonable mixing in water quality Management'*, prepared by NIWA and Ministry for the Environment[15]).

I consider that, on balance, the ZRM should be set at 250 metres for Stage 1A. In setting this distance I have considered and balanced all of the following factors and the varying distances which each suggests:

- The ZRM can be determined by calculations and whilst the GWRC plan documents do not provide any calculation guidance to follow, Dr Ausseil has done a calculation in his report based on his experience with other regional council planning documents. He considers that this calculation would represent a ZRM of between 250 and 490 metres. I consider that taking 250 metres would be a reasonable precautionary approach from this calculation;

- The effects on aquatic ecosystems are known at 200 metres and known at 500 metres; however the point where the current environment experiences a reduction in effects between these two points is unknown. Dr Ausseil

[13] Para 6.23 of Dr Ausseil's report
[14] Refer to proposed conditions (Schedule 2, condition 9) of the AEE
[15] Rutherford K, Zuur B, Race P, *No.10: Reasonable Mixing: A discussion of reasonable mixing in water quality management*. Date unknown.

states in his report that the effects on all other water quality determinants appear to comply with the requirements of 107(1) and the Regional Freshwater Plan at a distance of 250 metres downstream. I consider that 250 metres is a zone where it could be reasonably expected that the current environment would be experiencing effects from the discharge.

- The previous resource consent Officers Reports have not provided any clear guidance on ZRM, and it appears to me that sampling sites have historically been at 200 metres (macroinvertebrates) and 500 metres (water quality) only for ease of sampling. I do not consider that the historic situation to be very helpful and believe that we need to select a ZRM point moving forward that best represents the effects occurring in the river;

- The Ruamahanga River is managed (under the Regional Policy Statement and the Regional Freshwater Plan) for aquatic ecosystems and as pointed out by Dr Ausseil, this management purpose is 'frustrated' at 200 metres, and then it can be concluded that it would be frustrated for an unknown point between 200 and 500 metres. It should be noted that this frustration is not across the entire width of the channel. The laterally distance is not known but appears to be only a short distance (approximately 4 metres) from the true left bank. In my opinion is seems reasonable to set a ZRM at 250 metres when considering aquatic ecosystem management;

- It appears from the Forbes study undertaken that the current discharge results in a concentrated, relatively poorly mixed plume area which extends to approximately at least 370 metres downstream of the discharge point (and it is unknown how far this continues). This concentrated plume extends less than 4m laterally, however for 90-130m it does reach the entire width of the river in a very diluted form. This suggests to me that for a distance between 0 – 370m receiving water is being affected on some level by the volume of the discharge and the contaminants being discharged. It also suggests to me, that for a distance of between 0 – 370 metres that the concentration and volume of the discharge plume is affecting the flow and mixing rates (ability) of the Ruamahanga River.

Therefore, as significant adverse effects are occurring from the point of discharge to between 200 – 500 metres, and the zone of reasonable mixing is considered to be 250 metres, it can be concluded that **significant adverse effects are occurring after the zone of reasonable mixing** and therefore there is a breach of Section 107(1)(g).

One of the issues with setting the ZRM at 250 metres, is that standard water quality conditions requiring compliance with water quality standards and Section 107 baseline requirements, cannot be placed on SWDC at the point of 250 metres, as this would be putting them in a situation whereby they will not be able to meet consent conditions for two and a half years (until Stage 1B commences) for matters in relation to aquatic ecosystems (107(1)(g)).

To address this matter, I recommend that different conditions be placed on consent for the 250 metre point, and then for the 500 metre point. At the 250 metre point, conditions would require SWDC to comply with all water quality

standards and Section 107 baseline requirements except for those relating to Section 107(1)(g), aquatic ecosystems. Then at the 500 metres point all water quality standards and Section 107 baseline requirements would need to be met. This will only be a temporary situation for the initial Stage 1A. I consider this to be fair and reasonable as, given the proposal before us, SWDC will be unlikely to meet this requirement at 250 metres for the duration of Stage 1A. If GWRC accepts these significant adverse effects can occur for temporary and exceptional circumstances (discussed further in Section 10 of this report), then it would not be fair or reasonable for us to impose these conditions. However I consider that it is critical for SWDC to commit to ensuring they comply with these conditions at 500 metres for the next two and half years.

The AEE does not recommend any water quality standards or Section 107 baseline conditions however I have included these in my conditions attached in Appendix 1.

In summary, it is considered that both the current discharge from the site and the discharge which will occur during the Stage 1A, i.e. for approximately the first two and a half years of the consent, will have a **significant localised adverse effect on the aquatic life** of the Ruamahanga River from the point of discharge to the ZRM (250 metres), and then after the ZRM until 500 metres downstream of the discharge point where it appears that the effects reduce significantly. The conditions recommended for the consent will not mitigate the effects on aquatic ecosystems during this stage, however they will mitigate the other Section 107 effects.

9.3 Stage 1B

Stage 1B involves the discharge of 24% of treated wastewater (on an annual basis) to 5.3ha of vacant land adjacent to the MWWTP site during low-flows in the Ruamahanga River[16]. The effects from this stage on surface water and ecology of the river, and on groundwater and soils are outlined below.

Effects on surface water and ecology of the river in relation to Section 107 of RMA

As was stated above, both the current discharge and the discharge during Stage 1A results in significant, localised effects on macroinvertebrate communities due to the deposition of organic matter on the bottom of the river and the flow on effects on macroinvertebrates arising from increased growth of periphyton downstream of the discharge.

Dr Ausseil considers that during Stage 1B, the removal of 24% of the discharge at flows below half median flow (low flows), will significantly limit the risk of particulate matter settling on the bottom of the river, thus effects on sedimentation which currently occur will be significantly reduced. The level of periphyton growth that is currently occurring in the river will also be significantly reduced during this stage, particularly during November through to March in which the low flows occur.

[16] Refer to pages 25 – 27 of the AEE

In relation to sedimentation and periphyton growth, Dr Ausseil summarises in his report that the discharge (under Stage 1B) will:

> '*…significantly reduce the impacts of both key mechanisms by which the discharge may affect macro invertebrate communities, and in turn, reduce the risk of significant adverse effects on macroinvertebrate communities in the reach 200-500m downstream of the discharge. This is, in my opinion, primarily due to the removal of the discharge from the river during times when both effect mechanisms (deposition and periphyton growth) are more likely to occur. It is however difficult to say whether some localised significant adverse effects will still occur within some downstream of the discharge…and what their severity and spatial scale will be, apart from saying that it is likely to be significantly reduced compared to currently...* '[17]

In his conclusion Dr Ausseil states:

> '*…There remains some uncertainty with regards to the effects on macroinvertebrate community and periphyton growth at the point 200m downstream of the discharge and within the reach extending from 200m to 500m downstream of the discharge, although I fully expect that both the degree/severity and the spatial extent of these effects will be considerably reduced compared to the current/Stage 1A situation. Some monitoring may be advisable once Stage 1B is implemented to address this uncertainty…* '[18]

It is therefore known that the discharge under Stage 1B will significantly reduce the level of severity and spatial scale to what is occurring presently and during Stage 1A, somewhere from the point of 200 metres to 500 metres. Where this occurs, and the exact level of severity and spatial scale reduction, is uncertain as there was not enough information provided in the AEE for Dr Ausseil to come to a conclusion. In addition to this, there is uncertainty surrounding the characteristics of the flow in the river and how this will alter given the removal of the discharge during low flows.

Whether or not there is a Section 107(1)(g) breach during Stage 1B is dependent upon where the zone of reasonable mixing (ZRM) is set, and also as to whether the effects on aquatic ecosystems are significant or not at this point.

As with Stage 1A above, the AEE does not provide any clear guidance or analysis on the ZRM. As already mentioned Dr Ausseil provides some analysis in his report on the ZRM. As for Stage 1A, if at Stage 1 B the ZRM was set at 500 metres, then there would be no significant adverse effects beyond the ZRM, and therefore no Section 107(1)(g) breach. However if the ZRM is set at a distance of less than 500 metres then there is uncertainty as to whether there would be significant adverse effects beyond the ZRM and therefore uncertainty if there would be a Section 107(1)(g) breach. However Dr Ausseil considers that the risk of there being a Section 107 breach at

[17] Para 7.16 of Dr Ausseil's report
[18] Para 7.19 of Dr Ausseil's report

250 metres is low, therefore I consider it reasonable to conclude this would not be the case.

I have had extensive discussions with Dr Ausseil on the ZRM and where this should be set for Stage 1B. As I outlined in Stage 1A, it is my opinion that when setting a ZRM, a logical and reasonable approach should be taken. I have followed this same approach when considering the ZRM for Stage 1B, and also have considered the same matters and documents.

I consider that, on balance, the ZRM should be set at 250 metres for Stage 1B. In setting this distance I have considered and balanced the following points:

- I have considered all the matters I laid out in the bullet points under my ZRM section for Stage 1A;

- The difference at this stage is that it can be assumed that given the discharge is being taken out of the river during low flows, that the plume will behave differently, and therefore so will the flow and mixing rates. This will then have an impact on reducing the severity and spatial scale of the significant adverse effects occurring during Stage 1A;

- Dr Ausseil considers that, based on the information provided in the AEE, there is a level of uncertainty around how the removal of the discharge during low flows will affect the hydrological mixing characteristics of the river, and therefore what level of effects will occur during this stage and what the reduction in severity and spatial scale will be;

- Given this uncertainty, further monitoring work needs to be undertaken to reduce the uncertainty and ascertain what is occurring with the plume, with the mixing in the river and therefore what the level of effects are. Until this work is undertaken, I consider that a precautionary approach would be to set the reasonable mixing zone at 250 metres.

Given the discharge under Stage 1B will significantly reduce the risk of significant adverse effects on macroinvertebrate communities in the reach of 200 metres – 500 metres and that, despite the uncertainty, Dr Ausseil considers the severity and spatial scale of these effects will be considerably reduced compared to the Stage 1A situation, I believe it is reasonable to conclude that the effects at 250 metres will not be deemed significant, and therefore as the ZRM is considered to be 250 metres, it can be concluded that **significant adverse effects are not occurring after the zone of reasonable mixing** and therefore there should not be a breach of Section 107(1)(g) for Stage 1B.

The applicant's AEE does not recommend any water quality standards or Section 107 baseline conditions, however, I consider these necessary as an environmental bottom line and have therefore included both of these aspects in my conditions attached in Appendix 1. I consider that it is reasonable for all of these standards and baseline conditions to be set at the ZRM distance of 250 metres for Stage 1B as at this stage of the proposal, significant adverse effects should not be occurring beyond of ZRM. Without these environmental bottom

lines set at the ZRM, the consent would potentially allow significant adverse effects up to the commencement of Stage 2A.

In addition to this, in order to reduce the uncertainty and ascertain what effects are occurring during this stage, and also to understand what mixing is occurring in the river during this stage, I consider that it is important for the applicant to undertake the near zone river health survey and reporting as recommended in conditions 8 and 9, Schedule 2 of Appendix 1 (note this has been renamed Stage 1B mixing zone investigation in the GWRC recommended conditions). This survey will provide information on what level of effects are occurring, if the ZRM is correct and if the water quality standards and Section 107 baseline conditions set at this point should remain at 250 metres or potentially be altered. If the standards are not able to be met at the ZRM point, or if the river health survey shows the ZRM should be altered, then there would need to be a process initiated whereby the applicant would need to reduce the effects within the parameters of the existing system and consent. If this could not be achieved then GWRC would need to initiate a review of the consent, or SWDC would need to apply vary the consent conditions.

In summary, it is considered that during the Stage 1B, i.e. from 1 November 2017 and out to year 13 of the consent, it is likely that the effects of the discharge on the aquatic life of the Ruamahanga River will be **significantly reduced in scale from Stage 1A** and there will be no Section 107 breach. There is however uncertainty surrounding both the severity and spatial scale of effects during Stage 1B, and there is also uncertainty around where the ZRM should be set and therefore how these effects will sit within the zone of reasonable mixing and what the level of effects will be after the zone of reasonable mixing. To reduce the uncertainty and gain a better understanding of effects, the near zone river health survey should be undertaken.

Effects on groundwater and soils

The effects on the discharge to land on groundwater and soils has been assessed and reported on for GWRC by Mr Rob Docherty of Pattle Delamore Partners Ltd (PDP). Mr Docherty's report is attached as Appendix 9 of this report.

Groundwater mounding during Stage 1B was initially of concern to Mr Docherty, however after obtaining further information from the applicant, it appears that the size of the groundwater mound is very small when compared to seasonal fluctuations and is not considered large enough to cause problems with breakouts or bank instability. Therefore it was concluded by Mr Docherty that groundwater mounding during Stage 1B is not of any concern.

There was also initial concern expressed by Mr Docherty regarding the level of nitrates on the river from the land irrigation during Stage 1, particularly during mean annual low flows (MALF). The concern was that the high irrigation rate will cause irrigated effluent to bypass the plant root zone without complete nitrate removal, and the remaining nitrate will then be carried through into groundwater and this nitrate rich groundwater would then enter the river quickly.

Mr Docherty notes that while the contribution of Stage 1B land irrigation to the nitrate loading in the river during MALF is small compared to the ANZECC limit for toxicity (0.023mg/l compared to 0.7mg/l), high background nitrate loads in this river at MALF are caused by small accumulations, and this increases the amount of nitrates to toxic levels. He concludes however, that while nitrate levels will be acceptable given the low concentration in the outflow, the conservative nature of the estimate, and the temporary nature of the irrigation, he does have concerns regarding ensuring the discharge entering the river does not increase to greater than 0.023mg/L of Nitrate, nor cause the river to exceed the ANZECC (2000) level of 0.7mg/L during MALF conditions.

It is anticipated that these issues along with the soils assessment, nutrient limits and hydraulic loading will be worked through during the preparation of the Effluent Discharge Management Plan and associated Land Discharge Management Plan (as mentioned in Section 4 of this report), which both will require GWRC approval. It is considered that the preparation of a Land Discharge Management Plan (LDMP) will reduce the uncertainty and the gaps in the information required to understand what is occurring on the site. The AEE proposes that the Effluent Discharge Management Plan (EDMP) be undertaken on commencement of the consent, and for it to be lodged with GWRC within 12 months of the commencement of this consent. I recommend the Land Discharge Management Plan (LDMP) be required within 27 months of commencement of consent. The LDMP will need to incorporate soil and groundwater monitoring, to get meaningful data to base discharge designs on, this monitoring would need to span a full range of seasons hence the 27 months. The EDMP would then most likely need to be reviewed to incorporate findings from the monitoring; this would be able to be done under the yearly review required of the EDMP.

9.4 Stage 2A

Stage 2A involves irrigation of 42% of annual wastewater to Pain Farm during high flows (more than 3 times the median flow)[19]. The effects from this stage on surface water and ecology of the river, and on groundwater and soils are outlined below.

Effects on surface water and ecology of the river in relation to Section 107 of the RMA

During Stage 1B, it has been shown that the effects on the Ruamahanga will be reduced, however still could be significant and localised.

During Stage 2A, 42% will be taken out of the river (note at this stage the 24% removal on the adjacent site will cease) and Dr Olivier Ausseil has concluded that during this stage the effects on the Ruamahanga are expected to be **no more than minor** on any of the water quality or ecological parameters at 500 metres downstream of the discharge point. In addition to this, this stage will result in no more than more than minor effect on the matters contained in Section 107(1) (a) – (f) at 250 metres downstream of the discharge point, and is

[19] Refer pages 27 – 29 of the AEE

unlikely to result in more than minor effects on macroinvertebrate communities and periphyton growth (Section 107(1)(g)), at 250 metres downstream.

I consider it reasonable that the ZRM for Stage 2A be set at 250 metres to be consistent with Stage 1A and 1B.

He notes his concern regarding the potential effects of the discharge to land on waterbodies within the Pain Farm site, due to a lack of information. This information will be addressed through the preparation of a Land Discharge Management Plan which will further address the site constraints. This LDMP is discussed in detail below.

Effects on groundwater and soils

Mr Docherty expressed some concerns in his report regarding winter irrigation during Stage 2A, and also groundwater mounding and nitrate loading.

There is a hard pan layer present beneath the irrigated area as identified in the test pits that were dug. This layer is at a depth of 400-600mm and is a zone of low permeability, which has potential to restrict downward water flow. High infiltration rates during winter can cause a build-up of water on top of this layer which leads to groundwater coming close to the proximity of the surface. The deficit irrigation model proposed is designed to minimise the amount of additional groundwater escaping from the irrigated area, but the scheme could cause saturation of the soil zone prior to rainfall events, potentially reducing the amount of rainfall which can be absorbed by the soil zone and increasing the input to groundwater. As such, the scheme will increase groundwater level by an unknown amount.

The consequences of groundwater being so close to the surface are that groundwater and/or effluent can reach the surface, and potential for a reduced capacity within the soil zone to accept irrigated water due to increased soil moisture from rising groundwater levels above 200mm.

There was also some concerns regarding nitrate loadings raised by Mr Docherty and this was addressed by the applicant in the Section 92 response (dated 12 May 2014). Mr Docherty comments in his report that '*…there is a possibility that the amount of nitrate entering the soil zone may be larger than that absorbed by the crop*.' Based on the information provided on plant uptake of nitrogen from testing done, Mr Docherty states that for the entire month of May, in his opinion, the soil would be over saturated with N, and any infiltrating rainfall would cause this N to migrate into the groundwater. Mr Docherty also considers that this release of N into the groundwater can be controlled by preventing irrigation post-harvest/wintertime period.

In summary, it is my understanding that Mr Docherty's main concerns are that during Stage 2A, there are potential issues relating to the ability of the Pain Farm to take as much effluent irrigation that is proposed in the AEE (due to the hard pan layer, groundwater being perched and close to the surface, impacts on the small streams intersecting the disposal area, and saturation of soils). If this is the case, then the amount of effluent to be discharged into the river during Stage 2A would need to increase. Therefore, during the Land Discharge

Management Plan investigations and drafting, full assessments and proposed management of the discharges to land and water would need to be detailed and assessed against consent conditions to ensure they would be able to fully comply with conditions. SWDC would need to apply for a variation to this consent if the assessment shows they need to increase the flows to the river during Stage 2A, or to discharge to land at another site.

I consider that there is a high level of uncertainty surrounding the feasibility of Stage 2A being able to operate on the Pain Farm as per the AEE. It is my opinion and recommendation that the best way to deal with this uncertainty is through two mechanisms as set out below.

Firstly the Effluent Management Plan which is to be prepared within 12 months of the commencement of this consent and will look into the design and detail of the system proposed and how this will operate. While this will provide some clarification, I do consider however that this plan may not be able to go far enough to eliminate the uncertainty surrounding the site specific issues that Mr Docherty feels are present at Pain Farm. I therefore also recommend that a further management plan be undertaken by the applicant, that is a 'Land Discharge Management Plan', which will contain information site specific to the Pain Farm and would examine things such as (but not limited to) the soil structure, the groundwater (including the monitoring recommended in 4.2.2 of Mr Docherty's report), the watercourses present on the Pain Farm, and how all these factors work together, which will then feed into the Effluent Management Plan for Stage 2A detailed design.

I would note here that one of the mitigation measures recommended by Mr Docherty is deep ripping of the site. Based on experience with other WWTP's in the region, GWRC has some reservations regarding the potential effects that this mitigation measure can create. However I consider that the Land Discharge Management Plan, along with the Effluent Management Plan will enable effects to be avoided, and if not, a range of mitigation measures can be considered and specific mitigation measures to be examined in more detail.

9.5 Stage 2B

Stage 2B involves the construction of additional storage at the MWWTP or Pain Farm to contain all treated wastewater, other than in extreme weather events[20]. The effects from this stage on surface water and ecology of the river, and on groundwater and soils are outlined below.

Effects on surface water and ecology of the river in relation to Section 107

Dr Olivier Ausseil has concluded that at this stage, the effects on the Ruamahanga are expected to be **no more than minor**. He notes that at flows above three times median flow, the periphyton growth will be strongly limited, if not removed, by river flow. On that basis, adverse effects on macroinvertebrate communities are highly unlikely, even in close proximity to the discharge point.

[20] Refer page 29 of the AEE

Effects on groundwater and soils

Mr Docherty requested some information from the applicant regarding the determination of the required storage volumes for the proposed scheme. After a process of various communications and models being run (which Mr Docherty outlines in detail in his report), it was concluded by Mr Docherty that the proposed storage volume of 37,400m3 stated in the AEE appears to be less than the maximum required storage in every year. It is Mr Docherty's understanding that the storage volume would reflect the 90th percentile of winter requirements, and that one in every five years discharge into the river would have to occur in the winter. Given the lack of certainty regarding the volumes, Mr Docherty recommends a conservative approach and recommends a storage volume of 98,000m^3 be provided, subject to further verification modelling by the applicant.

It is my opinion that this issue of storage is linked to the same issue in Stage 2A, that being that the effluent which may not be able to be discharged onto the Pain Farm (due to the uncertainties surrounding the suitability of the land) and having to go into the river, would under Stage 2B have to go into storage. Therefore, rather than recommend the applicant increase the storage on site (which I consider is outside the scope of what GWRC can consider), I recommend that this issue also be addressed and considered through the preparation of the Effluent Management Plan and the Land Discharge Management Plan as outlined above. If it is apparent through the preparation of these plans that Pain Farm is not suitable for the amount of effluent proposed and that more land or storage is required, then there is still ample time (20 years) before Stage 2A and 2B are commenced for SWDC to come up with a solution within the parameters of their consent, or to apply for a new consent(s) for another land area, or increased storage.

9.6 Public Health Effects

The discharge of human sewage can pose a public health risk to people and communities, from the actual discharge itself, and from contact with poor water quality in a waterbody and contaminated soils. It is also important to acknowledge that there is a great risk to human health if the plant is not operated and the community cannot dispose of their effluent correctly.

The contaminants which are of concern to public health are pathogens, E.coli and also the area of emerging contaminants.

The AEE concludes that E.coli will not be a risk to human health due to the use of the UV treatment plant, however as mentioned in the background section of my report, current UV treatment of the effluent has not been able to consistently achieve compliance with limits set in the previous consent. The AEE also states that pathogens will be present in the top 10mm of the soil surface and therefore the chance of them reaching groundwater is low as the wastewater will be applied at a low rate and the wastewater is well treated by UV system.

Regional Public Health (RPH) made a submission on the application which provides useful guidance when assessing the effects on public health. They do

not make any statements in their submission regarding the levels of actual or potential effects on public health from the current or proposed discharge regime. Instead, RPH offers (in their submission) the following mitigation measures to reduce the potential risk of effects on public health from this proposal;

- reduce the effects on physical health from microbes in the waterways by using warning signage;

- reduce the risk of aerosols (which contain *E.coli*) crossing over property boundaries by ensuring the discharge to land has a 25 metre setback from any property boundaries for the spray irrigation of treated wastewater;

- reduce the overall public health risk by placing a condition on the consent which takes into account improvements in disposal technologies and allows best practical options to be adopted when the discharge to land system is put in place.

Regional Public Health also note in their submission that it is important to consider 'health' as being broader than physical effects, it can also include (in the case of Maori Health) effects on mental, whanau and spiritual wellbeing. They state that it is not possible to reduce the effects on these broader aspects of health unless the discharge is removed from the waterway. In order to reduce these other effects, Regional Public Health has suggested in their submission that the discharge of effluent to the Ruamahanga River should be reduced as soon practicable, and that the timeframes proposed in the AEE for each stage should be seen as a maximum.

In summary, I consider that the **effects on public health will be no more than minor**. I concur with the conditions recommended by Regional Public Health in relation to signage (see proposed condition 23 and 24 of Schedule 1) and 25 metre setback from property boundaries (see proposed condition 6, Schedule 4). I also fundamentally agree with PRH's statement that the timeframes in the application should be seen as a maximum and that if financial circumstances allow, stages should be bought forward. However we cannot condition the applicant with regard to this matter as we can only consider what is in the proposal before us.

9.7 Recreational and amenity effects

The Ruamahanga River has recreational and amenity values which are of importance to the region. The river is listed in Appendix 5 of the RFP as being a *Water Body with regionally Important Amenity and Recreational Values – Water Quality to be Managed for Contact Recreational Purposes*. Concern has been raised by some submitters regarding effects from the discharge on recreational values on the Ruamahanga River, although the actual effects have not been specified.

GWRC prepared a report in March 2009 titled, *Selection of rivers and lakes with significant amenity and recreational values*. For this report a number of groups and people in the region were surveyed. As a result of the survey, the

Ruamahanga River was identified as having significant recreational values. The recreational activities carried out include fishing, kayaking, canoeing, tubing and rafting, duck shooting and walking. Of the concerns raised in the survey which respondents felt would impact on recreational values, the only relevant concern to this application is poor water quality. So in the absence of specifics given by submitters, I will focus on water quality, and the subsequent effects on human health and amenity from recreational use in the river.

During the summer months, GWRC undertakes weekly monitoring of twelve popular river recreational sites in the Ruamahanga catchment. The aim of this monitoring is to identify the risks to public health and so disease causing organisms are monitored such as E.coli, toxic algae cover across the riverbed and turbidity/water clarity and water temperature[21].

There are measurable attributes in the National Objectives Framework (NOF) for how freshwater should be managed for 'human health for recreation'. The tools for GWRC in the NOF are the relevant parts of the National Policy Statement for Freshwater Management (NPS-FM) in relation to contact recreation. The NPS-FM is discussed in further detail in Section 11 of this report however in summary it requires that water quality in river should be maintained at its current state. Under the new regional planning framework, there will be a compulsory value for secondary contact recreation which means that all rivers must also meet, as a minimum what is known as C band. The Ruamahanga River at Pukio[22] is A band, therefore it meets secondary contact recreational standards (but not primary contact) and is safe for activities such as wading[23]. It should be noted here that, although not legally binding, the Ruamahanga River does not meet primary contact recreation standards (for activities such as swimming) at Pukio, it only achieves a NOF D band.

It is hard to establish the exact contribution of the MWWTP discharge is having on the levels of water quality in the Ruamahanga River. However, it could be reasonably and logically assumed that the current discharge of treated wastewater from the whole Martinborough township into the Ruamahanga River would be contributing to the reduced level of water quality occurring and the subsequent failure to meet the contact recreational guidelines. Despite this link, and whether or not contact recreational levels are breached, I consider there would be effects on amenity values from the current discharge, and the discharge occurring during Stage 1A. I consider it would be a valid amenity effect for a person in the community to feel concerned using the Ruamahanga River downstream of the discharge knowing that there has been wastewater (albeit treated) discharged into that waterway.

Once the discharge begins to be removed from the River, it is anticipated that the water quality levels of the river will be gradually enhanced and this will have a positive flow on effect on the perceived recreational and amenity values of the Ruamahanga River. It is hoped by GWRC that the removal of the discharge will result in actual reductions in the levels of the E.coli, toxic algae

[21] Bunny T, Milne J and Keenan L, July 2014. *River water quality and ecological health in the Ruamahanga Whaitua*, p11
[22] Pukio is the most downstream monitoring site on the Ruamahanga River and is located at NZTM: 2707855 5992730
[23] Bunny T, Milne J and Keenan L, July 2014. *River water quality and ecological health in the Ruamahanga Whaitua*, p12-14

cover across the riverbed and turbidity/water clarity and water temperature monitoring undertaken by GWRC to measure against recreational guidelines.

9.8 Cultural effects

The discharge of human effluent into water has the potential to adversely affect iwi and their cultural values. It is well recognised within all the relevant legislation, as well as both national and regional statutory documents (see Section 11 of this report) that tangata whenua have a strong connection across all of the values of a waterway and their involvement in managing this resource is important.

The AEE contains a Cultural Impact Assessment[24] prepared by Rawiri Smith of Kahungunu ki Wairarapa (KkW), one of the two recognised iwi in the Wairarapa. In this Cultural Impact Assessment, Mr Smith goes through the different treatment options that have been considered by SWDC for all three sites, and provides an assessment of cultural effects. He also provides some supplementary information on the specifics of the Martinborough site. In this supplementary information he outlines that some of the key cultural aspects are the importance of the waterways such as;

- the spiritual and physical aspects of the waterway;
- the need for access to clean healthy drinking water;
- the relative importance of food collection (in particular he mentions the traditional meat source of eels); and
- the need for clean water for spiritual rituals.

Kahungunu ki Wairarapa (KkW) was the only iwi group which made a submission on the application, and their submission was neutral. KkW supported the intent of the proposal however expressed some concerns they would like to see addressed. These concerns are in relation to:

- the 35 year term and the need to ensure the receiving environment can still be enhanced during this potential term;
- the use of the crops harvested from the site for human consumption;
- the potential for breaches and how these will be evaluated, reported on and remedied; and
- the risk of spray irrigation into air and the need for advanced spray dispensers.

KkW is supportive of the preparation of the Tangata Whenua Values Monitoring Plan to allow for the concerns listed above to be sorted through. I consider that this is the most appropriate forum for these concerns to be addressed; however I have concerns regarding this given that this Tangata

[24] Refer to Appendix 14 of the AEE

Whenua Values Monitoring Plan cannot change the conditions of the consent without requiring a variation. Therefore, it is important that any concerns are addressed in this report or through conditions where possible.

I consider that the proposed conditions of this consent will meet bullet point 3 above. With regard to bullet point one; I have taken iwi concerns into account in the duration section of my report. With regard to bullet point 4, I consider that this operational matter could be addressed in the plan and then taken into account when the detailed system is designed. Bullet point 2 will need to be addressed by the applicant should they choose to grow crops for human consumption. They would have minimum food safety standards to meet, and if intending to do this, they could address iwi concerns in the development of the Tangata Whenua Values Monitoring Plan.

In summary, it is considered that effects on cultural values from the proposed staged discharge to water and land will be **no more than minor**. The avoidance and mitigation of any potential effects can be addressed through the conditions and then further enhanced during the preparation of a Tangata Whenua Monitoring Plan. A Tangata Whenua Monitoring Plan has been proposed by the applicant and the preparation and timing of this is recommended as condition 6 of Schedule 1.

9.9 Effects on Lake Onoke

As already mentioned, the Ruamahanga River eventually feeds into Lake Onoke, which is located at the bottom of the catchment.

At the current time, GWRC knows that the water quality of the lake is in a degraded state however the actual contribution of individual land use types onto the water quality levels is not able to be determined[25]. This is further detailed work which needs to be undertaken by GWRC in their science monitoring of the state of the environment in the Wellington region.

Although the actual effects (i.e. the contribution of contaminants and loadings) of the current discharge on Lake Onoke are unknown by both GWRC and SWDC, it could be logically and reasonable concluded that given the Martinborough site is discharging large volumes of wastewater directly into the Ruamahanga River, that it will be having some level of cumulative effect on Lake Onoke (along with other land uses in the wider Ruamahanga River catchment). This effect will continue to occur during Stage 1A of the proposal.

Dr Ausseil in his report has considered the effects of the discharge on Lake Onoke and he agrees that the current level of effects are largely unknown. He states that during Stage 1B, he considers the level of effect on Lake Onoke will be reduced. As the current level of effects on Lake Onoke is unknown, it is therefore difficult to quantify the reduction that would occur during this stage.

During Stage 2A, Dr Ausseil considers there will still be some cumulative effects on Lake Onoke, but there will be about a 58% reduction compared to

[25] Perrie, A and Milne JR, Feb 2012. *Lake Water Quality and Ecology in the Wellington region: State and trends*. Pages 42-58

current levels. During Stage 2B he considers that the effects on Lake Onoke will be no more than minor.

In summary, it can be considered that there is **likely to be some cumulative effects** occurring on Lake Onoke from the **current discharge** into the Ruamahanga River. The level of these effects is unknown, and further detailed work would need to be undertaken to quantify these effects. Once the gradual removal of the discharge occurs, the effects will be reduced. On receipt of the Land Discharge Management Plan a better assessment will be able to be made on whether Stage 2A and 2B will deliver a regime whereby the effects can be considered no more than minor.

9.10 Positive effects

There are obvious positive effects to people and communities of South Wairarapa in relation to the operation of the wastewater treatment plant. The operation of the plant provides for the public health and safety of the residents of Martinborough.

The applicant in their AEE[26] outlines some positive effects of the proposal. These positive effects are that;

- all three sites receive investment in their systems and receiving environments;
- that the wastewater strategy ensures the spreading of funding over all three sites and ensuring the upgrade is affordable for current and future generations; and
- the gradual removal of wastewater from the River when impacts are greatest.

GWRC concurs that there are positive effects of the proposal and supports any removal of discharge from water. We acknowledge the need for investment at all three sites and a gradual process of improving the effects on all three receiving environments (Ruamahanga River, Papawai Stream and Donald's Creek/Lake Wairarapa).

In summary, I consider there will be **positive effects** from the proposed staged discharge to water and land.

9.11 Discharge to air

There are two main potential discharges to air effects from the operation of the discharge to land and water from a wastewater treatment plant: the odour effects that can occur from the plant and/or the irrigation area, and also the spray or aerosols/particles from the irrigation area.

Odour effects occur when the plant is poorly managed and allowed to become anaerobic. The resultant odour can adversely affect those in the surrounding

[26] Page 74 of the AEE

environment. During the operation of this plant GWRC has had no record of any odour complaints being received from this plant. The AEE states that the nearest residential property to this site is 600 metres away to the south of the site. In relation to odour from the irrigation area at Pain Farm, provided the plant is operated correctly, odour should not occur. The applicant has stated in the AEE that '*…irrigation lines will be flushed following periods greater than 21 days of no irrigation…'* to ensure there is no release of odour[27]. However this will not stop anaerobic conditions within the pipework and the applicant may not be able to meet consent conditions requiring there to be no objectionable odour beyond the boundary of the property. Therefore, they may need to flush the irrigation lines more often.

Submitters who reside across the road of the Pain Farm site have raised the issue of odour from the discharge area. Odour should not occur beyond the boundary of the plant site or the irrigation areas if the system is operated correctly. Conditions in Schedule 3 of Appendix 1 require there to be no offensive or objectionable odour beyond any site boundaries. If an odour was to occur the residents have a clear course of action available to them. They could phone the GWRC 0800 number and log the odour as an environmental incident. A staff member from GWRC would attend the site, assess where the odour was coming from and if it was a confirmed the odour was from the Pain Farm a site investigation would be initiated and SWDC would be required to mitigate the cause of odour as soon as possible.

Particles are released into the air during the irrigation of wastewater to land and these have the potential to cause adverse effects on people. The applicant has proposed some mitigation measures[28] to ensure no adverse effects occur from the spray of aerosols. These mitigation measures are:

- 25 metre buffer zone in the land application area;
- Automatic shutdown of irrigators when wind gusts of 12m/s or higher are detected;
- 125 metre buffer which is enacted when wind speeds of 4m/s for more than 15 minutes occur; and
- Air Quality Management Plan will be developed.

These mitigation measures have all been recommended as conditions of the consent (see Schedule 2, but AQMP is in Schedule 1). Provided the system is operated efficiently, and the conditions are adhered to, it is considered that effects on the environment from potential discharge to air will be **no more than minor**.

9.12 Consideration of best practical option/alternatives methods

Section 105 of the RMA requires a consent authority to consider the nature of the discharge and the sensitivity of the receiving environment, the applicant's

[27] Page 99 of the AEE
[28] Page 99 of the AEE

reasons for the proposed choice, along with any possible alternative methods of discharge (including the discharge into any other receiving environment).

The applicant has provided detail in the AEE on the nature of the discharge and the sensitivity of the receiving environment, and these two matters have been discussed throughout section 9 of my report.

The AEE also provides an explanation on the alternatives[29] considered. The main points in this section which I consider are of importance are as follows:

- the level of investment in the existing site and system means that a total relocation of the plant is not feasible; and

- SWDC have considered and investigated a large range of options for the upgrade of the site and the discharge system.

GWRC has been satisfied both through reading the AEE, and also through consultation undertaken with GWRC Officers prior to lodgement of the AEE, that SWDC have investigated a large range of options and that there has also been consideration put into the level of investment that they can financially achieve. This is still however primarily a discharge to water consent, with a gradual discharge to land component. As such while the significant adverse effects are able to be gradually reduced by the proposal, there will still be some level of effects continuing in the Ruamahanga River as wastewater will be discharging into it for 20 years. The monitoring undertaken during the course of this consent should give an indication if the proposed system is the best practical option for the various sites, if complete removal of the discharge from water is the best option, or if this combination of land and water regime is the best long term solution.

The Ruamahanga River is a degraded waterway and so it is not considered to be a sensitive receiving environment. It does however have regionally important values requiring protection, and has been identified as a waterway needing enhancement. As such the enhancement of the Ruamahanga River is seen as an important priority for GWRC and this is reflected in the current planning documents, and also in the work that is currently being undertaken through the new Whaitua process. The Whaitua will set whaitua or catchment objectives and targets for water quality outcomes, including setting timeframes and priorities for achieving whaitua or catchment objectives and targets.

9.13 Other matters - 104(1)(c)

A number of submitters have raised the development of the new regional plan and the connected Whaitua Process in their submissions. Submitters have indicated that they would like to see this consent process deferred until the new plan is in place and the whaitua have set limits for the Ruamahanga River.

It is GWRC's position that it is not viable to defer processing this consent to wait for the plan or whaitua process to be completed. Under the RMA, GWRC

[29] Page 109, 110 and Appendix 2 of the AEE

has a duty to avoid unreasonable delay when processing a resource consent application. The notification, submission, further submission and subsequent appeal process that are involved with developing a new regional plan is lengthy and could continue for many years. In addition to this, any limits set by the Whaitua will have to go through a variation process to the regional plan which would also be subject to the same submission, further submission and potential appeal process.

If this consent was deferred for that process to be complete, this would result in unreasonable delay for the applicant and further to this, GWRC believes this delay would not promote sustainable management of the Ruamahanga River. This delay would see the current discharge continue under the current conditions of consent without any upgrade or land treatment for an unknown duration. It is in the best interests of the Ruamahanga River that this application be processed and the proposed improvements begin to occur, which are in fact occurring as early as 1 November 2017.

Should national environmental standards and/or changes to regional plans occur during the term of the consent, GWRC may be able to review the affected consent conditions through a formal, public review process under Section 128 of the RMA, refer to condition 32 Schedule 1.

Other submitter concerns which haven't been specifically addressed in my report are in relation to concern over property values adjacent to the Pain Farm. This is not a matter which GWRC can consider when assessing the effects of this proposal, it is outside of our functions and duties. In addition to this there was concern raised regarding restriction on the use of crops, as mentioned in the cultural effects section of this report, what the crops are used for is a matter which would need to be dealt with by the applicant. There will no doubt be public health requirements as to what crops can and cannot be used for however this is outside of GWRC functions and duties and is not a matter we can consider or condition.

9.14 Conditions

The conditions attached in Appendix 1 of my report have been formulated through taking the applicants recommended conditions and altering these as GWRC has considered necessary to align them with our standard wording, other consents in the region, and also input from Dr Ausseil.

In addition to this, conditions have been added in order to mitigate potential effects, and where this is the case, justification for these conditions, have been referred to in my report.

I have not referred to all the conditions contained in Appendix 1 in my report, as a consent of this nature requires many operational conditions which do not require specific justification.

9.15 Summary

A summary of the overall effects is as follows:

- For the current discharge, and during Stage 1A, there will be significant, localised effects on the Ruamahanga River between the point of discharge and 500 metres and this effect will occur after the zone of reasonable mixing and therefore will breach Section 107(1)(g). This effect will continue for approximately the first two and a half years of the consent;

- During Stage 1B, the effects on the Ruamahanga River will be reduced, however the level of these effects is uncertain and it is possible there could still be some significant localised effects during this stage. A study on near zone river health will need to be undertaken to either eliminate this uncertainty or to enable the contaminants to be reduced with the parameters of the existing system;

- By the end of Stage 2A, the effects on the Ruamahanga River will be no more than minor, and this level of effect will continue into Stage 2B;

- The potential effects on soils and groundwater can be partially mitigated by ensuring that a Land Discharge Management Plan is developed using at least one full year (preferably two) of soil/groundwater monitoring and this is then fed into the detailed design and Effluent Discharge Management Plan;

- This is some uncertainty surrounding the suitability of the Pain Farm and if the volumes of effluent which are proposed to be applied during Stage 2A and 2B can actually be met (given the potential effects on groundwater and soil saturation). This uncertainty needs to be addressed through the formulation of a site specific Land Discharge Management Plan which takes all the uncertain factors into account;

- There are some positive effects from the proposal which must be acknowledged and taken into consideration. The continued operation and upgrade of the wastewater treatment plant allows for the residents of Martinborough to continue to have a functional wastewater disposal system whilst ensuring that they are not unduly affected financially by the upgrade;

- It is anticipated that recreational and amenity values of the Ruamahanga River will be enhanced with the gradual removal of the discharge into the Ruamahanga River;

- Cultural effects can be adequately dealt with through a combination of recommended conditions and also through the formulation of the Tangata Whenua Monitoring Plan;

- The public health effects on people and communities from odour and spray aerosols can be easily mitigated by conditions of consent (buffers, automated shutdowns, management plan), along with a regime of monitoring and reporting to GWRC should any adverse effects arise;

- The effects on Lake Onoke are largely unknown and not well quantified however there is an obvious correlation between the removal of nutrients from the Ruamahanga River (as the discharge is removed), and therefore removal of nutrients from Lake Onoke downstream of the discharge point.

- Detailed monitoring undertaken during the course of this consent should give an indication if the proposed system is the best practical option for the various sites, if complete removal of the discharge from water is the best option, or if a combination of land and water regime is the best long term solution.

I therefore conclude that overall, the main areas of concern are in relation to the continuation of **significant localised adverse effects** on the aquatic life of the Ruamahanga River for the first two and a half years of the consent. There is also the **uncertainty** surrounding the level of effects on the Ruamahanga River during Stage 1B and the uncertainty surrounding the suitability of the Pain Farm to take all the effluent that is proposed to be spread on this area during Stages 2A and 2B. With this level of uncertainty it then follows that there may need to be changes to what will become the 'future operation' of the MWWTP.

10. Section 107

10.1 Section 107

As mentioned in section 8.3 of this report, section 107 of the RMA places restrictions on the grant of resource consents for the discharge of contaminants into water if they cause certain adverse effects in receiving waters after reasonable mixing.

> *'…a consent authority shall not grant a discharge permit to do something that would otherwise contravene section 15…allowing –*
>
> *(a) the discharge of any contaminant or water into water; or*
>
> *(b) a discharge of a contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water; …*
>
> *if, after reasonable mixing, the contaminant or water discharged…is likely to give rise to all or any of the following effects in the receiving waters:*
>
> *(c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:*
>
> *(d) any conspicuous change in the colour or visual clarity:*
>
> *(e) any emission of objectionable odour:*
>
> *(f) the rendering of fresh water unsuitable for consumption by farm animals:*

(g) any significant adverse effects on aquatic life.

(2) A consent authority may grant a discharge permit ... to do something that would otherwise contravene section 15 ... that may allow any of the effects described in subsection (1) if it is satisfied—

(a) that exceptional circumstances justify the granting of the permit; or

(b) that the discharge is of a temporary nature; or

(c) that the discharge is associated with necessary maintenance work—

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

10.2 Effects

It has been concluded in Section 9 of this report, that the effects on the aquatic life of the Ruamahanga River will be significant in a localised area of up to at least 200 metres and potentially up to 500 metres from the point of discharge during Stage 1A. This significant adverse effect on aquatic life will occur for the entire duration of this stage, which is approximately the first two and a half years of the consent.

It has also been concluded in Section 9 of this report that for this stage, the ZRM is 250 metres, therefore the proposed discharge to the Ruamahanga River will not meet Section 107(1)(g) during Stage 1A.

10.3 Exceptional circumstances

Should the effects of a discharge be considered adverse in relation to any parts of Section 107(1), then the consent authority must consider under Section 107(2) if it is satisfied that (amongst other matters) there are exceptional circumstances which allow the consent to be granted. There is precedent to what constitutes exceptional circumstances in relation to wastewater treatment plants, in both *Paokahu Trust v Gisborne District Council A162/03* and in the 2012 GWRC decision that was issued on the resource consent application of CDC for the continued operation of their wastewater treatment plant to discharge contaminants into the Mangatarere Stream.

In this instance, it is considered that there are exceptional circumstances which would allow consent to be granted for a period despite the significant adverse effects occurring on the Ruamahanga River during Stage 1A. These exceptional circumstances are simple in that SWDC and the Martinborough community need a wastewater treatment and disposal operation to allow their community to function, to provide for basic social needs and to maintain public health standards.

10.4 Temporary nature

Another matter that GWRC must consider and be satisfied about under Section 107(2) is whether the significant adverse effects that are occurring are of a

temporary nature. The Concise Oxford Dictionary defines temporary as *'lasting, meant to last, only for a time…'*

It has already been stated that significant adverse effects are occurring during Stage 1A. As has already been outlined in this report, Stage 1A will continue for the first two and a half years of the consent.

So in relation to this proposal and the matter of '*temporary*', it can be stated that:

- Significant adverse effects on aquatic life will occur in the Ruamahanga River for **approximately the first two and a half years of this consent** (during Stage 1A) between 200 and 500 metres downstream of the point of discharge, and so therefore will occur after the ZRM which is considered to be 250 metres.

It is my opinion that a period of two and a half years for significant localised adverse effects to occur on the Ruamahanga River can be considered temporary when considered in the wider context of the long term solution to significantly reduce the discharge of the wastewater from the Ruamahanga River. The significant adverse effects occurring are not lasting, and it is not SWDC's intention for them to last beyond this two and a half year point. It is SWDC's intention for these effects to be reduced with the commencement of Stage 1B.

10.5 Section 107 conclusion

In conclusion, even though there are significant adverse effects occurring on aquatic life in the Ruamahanga River after reasonable mixing, I consider that it is consistent with the RMA to allow this discharge permit to be granted given the temporary nature of these effects, and the exceptional circumstances surrounding the need to grant this consent.

11. Objective and policies of the relevant planning instruments 104(1)(b)

11.1 National planning instruments

11.1.1 National Policy Statement for Freshwater Management 2014 (NPS-FM)

The National Policy Statement for Freshwater Management 2014 (NPS-FM) took effect on 4 July 2014. The NPSFM sets out objectives and policies that direct local government to manage water in an integrated and sustainable way, while providing for economic growth within set water quantity and quality limits. The NPSFM is an important step to improve freshwater management at a national level.

The key purpose of the NPSFM is to set enforceable quality and quantity limits. The intent of this NPSFM is that any more than minor potential adverse effects of activities, in relation to water takes, use, damming and diverting, as well as discharges, are thoroughly considered and actively managed.

The NPSFM is given effect to through the Regional Freshwater Plan (RFP) - two transitional policies (5.2.10A and 6.2.4A) have been directly inserted into

the RFP which require GWRC to consider specific criteria when making decisions on resource consent applications. Policy 6.2.4A relates to water permits; as such it is not relevant to this proposal, however I have assessed the application against policy 5.2.10A. In addition to this, it is also given effect through the Regional Discharge to Land Plan (RDLP) though transitional policy 4.2.24A. I have assessed the application against these policies and although Stage 1A doesn't achieve compliance with them, all other stages of the proposal do.

The relevant objectives and policies of the NPSFM are outlined below.

- Objective A1 – to safeguard the life-supporting capacity and ecosystem of fresh water

- Objective A2 – to maintain or improve the overall quality of freshwater

- Objective C1 – to improve the integrated management of freshwater and the use and development of land in whole catchments

- Policy C1 – by regional councils managing freshwater and land use in catchments in an integrated and sustainable way, adverse effects can be avoided, remedied or mitigates.

- Objective D1 – to provide for the involvement of iwi and hapu to ensure that tangata whenua values and interests are identified and reflected in the management of freshwater, including associated ecosystems.

- Policy D1 – local authorities shall take reasonable steps to involve iwi and hapu in the management and decision making around of freshwater and ecosystems in the region.

The main issues to be addressed regarding the above objectives and policies are in regards to ensuring freshwater is managed in such a way that quality and life supporting capacity of freshwater is safeguarded, through ensuring development either maintains or improves water quality. In addition to this the NPS-FM seeks to ensure that tangata whenua values are recognised and that they are involved in the decision making process.

It is considered that this proposal is consistent with the NPS-FM. As has already been addressed in Section 9 of this report, tangata whenua values have been recognised by SWDC through consultation and also through the cultural impact assessment proposed. The applicant has also recommended that a condition be placed on the consent requiring a Tangata Whenua Management Plan.

As discussed in Section 9 of this report, as the discharge is not increasing, the contact recreation levels in the Ruamahanga River will be maintained as is required by the NPS-FM. In addition to this, the future secondary contact standards which will need to be met are currently being met in the River.

With regard to water quality and life supporting capacity, Stage 1A will have significant localised adverse effects on the aquatic ecosystems, however it will not see any degradation of water quality or life supporting capacity of the Ruamahanga River. The proposal will maintain the current levels of contaminants being discharged, and then the proposal will enhance the water quality and life supporting capacity of the River over the course of the whole proposal (by gradually removing the discharge from the water). The land discharge design and implementation will have to be undertaken in such a manner to ensure both groundwater and streams in or adjacent to the land discharge areas have their water quality and life supporting capacity protected.

11.1.2 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NESCS2011)

The NESC2011 applies where land is used for one of 53 specified hazardous activities or industries. 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 (activity "G.6").

When undertaking the Land Discharge Management Plan, the applicant will need to take the NESC2011 into consideration to ensure the discharge system is designed to minimise contaminant levels in soil to ensure human health is protected.

11.2 Regional planning instruments

The relevant regional planning instruments are the Regional Policy Statement (RPS), the Regional Freshwater Plan (RFP), the Regional Discharges to Land Plan (RDLP) and the Regional Air Quality Management Plan (RAQMP) for the Wellington region, which are all operative. The applicant's proposal has been assessed against the relevant objectives and policies contained within the RPS, RFP and RDLP. The full wording of the relevant objectives, policies and methods is contained in Appendix 7 to this report.

11.2.1 Regional Policy Statement (RPS)

The RPS outlines the resource management issues of significance to the region and provides a framework for managing the natural and physical resources of the region in a sustainable manner. Further to this, the RPS identifies objectives, policies and methods which are designed to achieve integrated management of the natural and physical resources of the whole region.

The relevant chapter of the RPS to this application is Chapter 4 Policies and Methods (Section 4.1 Regulatory Policies). An assessment of the relevant objectives and policies are outlined below.

- Chapter 4 - Policy 16 – Promoting discharges to land – regional plans

  This policy gives an intention of promoting discharges of sewage to water rather than land, however is best implemented through the new regional plan.

- Chapter 4 - Policy 39 – recognising the benefits from renewable energy and regionally significant infrastructure – consideration

  GWRC must recognise and consider the benefits derived from the wastewater treatment plant, as it is considered to be regionally significant infrastructure. The positive effects of the wastewater treatment plant and its gradual upgrade under the wastewater strategy have been considered in Section 9 of this report.

- Chapter 4 - Policy 40 – Safeguarding aquatic ecosystem health in water bodies – consideration.

  This policy requires particular regard to be given to managing water bodies for their identified purposes. In the Ruamahanga River, at and below the MWWTP point of discharge, one of the relevant purposes is aquatic ecosystem health. The effects of the proposal on aquatic ecosystem health have been considered in section 9 of this report, and are significant (and localised) for the first two and a half years of the consent, then a gradual reduction from this point. It is considered that while the proposal will not meet this objective for the first two and a half years given the continuation of the current discharge, the policy should be after this point for the Ruamahanga River. An assessment of aquatic ecosystem health on waterways through or adjacent to land disposal areas will need to be addressed in the LDMP.

  One of the other purposes is amenity and recreational values and as already mentioned in section 9 of this report, it is hoped that overall the water quality upon which these values rely, will be enhanced and thus I consider it will meet the intent of this policy.

- Chapter 4 - Policy 43 – Protecting aquatic ecological function of water bodies – consideration.

  The relevant parts of this policy are (a) maintaining and enhancing ecosystems, (d) maintaining and enhancing amenity/recreational values, (e) protecting significant indigenous ecosystems and habitats and (g) maintaining fish passage. It is considered that the values identified in these clauses should at least be maintained. As outlined in section 9.1 of this report, there a number of important native fish species in the river, along with their migratory pathways. I consider that with this proposal, the values of this policy will be maintained at their current level for the first two and a half years, and then it is hoped they will be enhanced after this point through the gradual removal of the discharge of treated wastewater from the Ruamahanga River. In addition to this, given the plume does not reach the entire width of the river, it will not affect migrating pathways for fish passage.

- Appendix 1 – Rivers and lakes with values requiring protection

The Ruamahanga River was included in Appendix 1 of the RPS following a region-wide survey of recreational users in November 2007. This report addressed the Ruamahanga River along its entire length, and does not really deal with any particular location; therefore it must be assumed that the whole river contains important values. It is considered, based on the effects discussed in Section 9 of this report, that overall the recreational and amenity values will be enhanced, and thus meet the intent of this policy.

The Ruamahanga River is also included in this appendix for habitat for indigenous fish species, habitat for six or more migratory indigenous fish species. As discussed in policy 43 above, there a number of important native fish species in the river, along with migratory pathways. I consider that with this proposal, the values of this policy will be maintained at their current level for the first two and a half years, and then it is hoped they will be enhanced after this point through the gradual removal of the discharge of treated wastewater from the Ruamahanga River. The discharge should not affect fish migration as the plume is not reaching the entire width of the river at any stage of the proposal, therefore leaving clear passage.

In summary, it is considered that the proposal will not meet the intent of objective 40 or part of 43 for the first two and half years of operation, however this period of significant effects occurring is considered to be of a temporary nature and acceptable when balanced with the overall proposal and other objectives and policies regarding regionally significant infrastructure. The wastewater strategy developed for the site (and the other two SWDC WWTP sites) will see these effects be reduced as is financially possible, and all the policies will be met in time.

11.2.2 Regional Freshwater Plan (RFP)

The RFP outlines a number of objectives and policies relevant to the Wellington region to manage water resources in a sustainable manner. The intent of the plan is to promote sustainable management of the natural and physical resources of the region.

An assessment of the relevant objectives and policies are outlined below.

- Objective 4.1.1 - the relationship of tangata whenua and their culture and traditions with fresh water

- Objective 4.1.2 – the mauri of water bodies and river 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.

- Policies 4.2.4 and 4.2.5 – these two policies seek to avoid, remedy and mitigate adverse effects on water bodies and habitats of species harvested by iwi as well as having regard to customary knowledge on these issues.

These objectives and policies all relate to iwi issues and cultural effects. It is considered that this proposal, when considered as a whole, will meet the intent of these objectives. The applicant is seeking consent to gradually reduce the discharge to water of effluent, and will work with iwi to prepare a Tangata Whenua Monitoring Plan to address iwi concerns. This will allow any actual or potential cultural effects of discharging effluent to the Ruamahanga River to be mitigated.

- Objective 4.1.5 – the life supporting capacity of water and aquatic ecosystems if safeguarded from the adverse effects of use and development.

  As mentioned in the RPS section above, the effects of the proposal on aquatic ecosystem health have been considered and are significant (and localised) for the first two and a half years of the consent, then a gradual reduction from this point. It is considered that the proposal will not meet this objective for the first two and a half years; however this policy will be met after this point.

- 5.2.4 – to manage water quality for contact recreation purposes in water bodies identified in Appendix 5

- 5.2.6 – except for rivers identified in Appendix 7 (which the Ruamahanga River is not), water quality of all surface water bodies in the region shall be protected for aquatic ecosystem purposes.

- 5.2.8 – to have regard to the relevant guidelines in Appendix 8 when deciding if a discharge is able to satisfy other water quality policies

- 5.2.9 – to manage the quality of freshwater of the rivers identified in Appendix 7 so water quality is enhanced to satisfy the purpose of the appendix.

- 5.2.10 – to allow the discharge of contaminants to freshwater which do not satisfy the relevant policies 5.2.1 through to 5.2.9 where the discharge will be temporary and has exceptional circumstances.

- 5.2.10A – 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.

  The six policies above all relate to the values of the Ruamahanga River which need to be managed and given particular regard to, such as water quality, aquatic ecosystems, life supporting capacity and contact recreation. It has been concluded in Section 9 of this report that the effects on these matters will be either enhanced or adequately mitigated, except for the significant localised adverse effects on aquatic ecosystems which will occur for the first two and a half years of the consent.

- 5.2.11 – to ensure zones of reasonable mixing for contaminants in a receiving water body are determined by having regard to the purpose for which the receiving water is managed (and any effects on that purpose; any tangata whenua values that may be affected; volume of water or concentration of contaminants being discharged and the area of receiving water that could potentially be affected; and the physical, hydraulic and hydrological characteristics of the receiving water.

  This policy is being met as these are the matters which have been factored into the extensive discussion surrounding the location of the ZRM in section 9 of this report.

- 5.2.13 – to encourage users to discharge to land as an alternative to surface water where discharging the 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.

  In general this policy will be met, but a full conclusion will not be able to be reached until such time as a full site and soil assessment and associated groundwater monitoring has been undertaken and land application designed based on findings.

- Appendix 5 – Water Bodies with Regionally Important Amenity and recreational Values – water Quality to be Managed for Contact Recreational Purposes.

- Appendix 7 – Water Bodies with Water Quality Identified as needing Enhancement

  The identification of amenity and recreation values in Appendix 5 of the RFP followed a survey in 1995 of recreational water users in the region. Appendix 7 takes this one step further and lists the Ruamahanga River as needing enhancement for recreational purposes.

  The Ruamahanga River has been identified as having amenity and recreational values for canoeing, kayaking and angling. The effects on recreational values of the Ruamahanga River were consider in Section 9 of this report as being no more than minor and that the recreational values of the Ruamahanga will be enhanced once the discharge is removed from the River.

In summary, the intent of the RFP will be met after the initial two and half year period of the existing discharge during Stage 1A.

11.2.3 Regional Discharges to Land Plan (RDLP)

The RDLP outlines issues, objectives and policies which seek to provide a framework to manage the discharges to land in the Wellington region. The intent of the plan is to promote sustainable management of the natural and physical resources of the region.

An assessment of the relevant objectives and policies are outlined below.

- Objective 4.1.4 – there is a significant reduction in contamination of surface water, groundwater from the discharge of human effluent to land

- Objective 4.1.5 – the adverse environmental effects of discharges of liquid contaminants from point sources into or onto land are avoided, remedied or mitigated.

  These objectives seek to avoid, remedy and mitigate any actual or potential adverse effects which may occur from discharging effluent to land. It is considered that the application will meet these objectives as the proposed conditions around site and soil investigations and related LDMP will ensure adverse effects are mitigated. I consider that the relevant objectives of the RDLP are met by this proposal.

- 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.

- 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.

- Policy 4.2.14 – to require discharges to land from sewerage systems to have a site specific management plan for the discharge.

- 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 summary, these policies seek to ensure that when effluent is being discharged to land, that important matters are considered and assessed. These matters have all been considered in the AEE and the assessment of this application by GWRC, therefore I consider the relevant policies of the DLP are met.

11.2.4 Regional Air Quality Management Plan (RAQMP)

The RAQMP outlines issues, objectives and policies which help promote the sustainable management of discharges to air. The intent of the plan is to promote sustainable management of the natural and physical resources of the region.

An assessment of the most relevant objectives and policies are outlined below:

- Objective 4.1.2 – Discharges to air in the region are managed in a way which enables people and communities to provide for the social and cultural wellbeing, and for health and safety while ensuring effects on human health, tangata whenua, and amenity are avoided, remedied or mitigated.

- Policy 4.2.6 – to ensure any measures adopted to avoid, remedy or mitigate effects of discharges of contaminants to air take into account the sensitivity of other parts of the environment

- Policy 4.2.10 – when placing conditions on resource consents to consider best practical options, require adherence to codes of practice.

- Policy 4.2.14 – to avoid, remedy or mitigates any adverse effects (including human health and amenity values) as a result of odours.

  These policies and objectives seek to ensure that any discharges to air from an activity will not result in any adverse effects on people's health and wellbeing. It was concluded in Section 9 of this report that the effects on the people near to the plant and Pain Farm site, and the wider community of Martinborough, will be no more than minor. The applicant has put in place a number of mitigation measures which will ensure that any potential effects will be avoided.

In summary, it is considered that this proposal meets the objectives and policies and the intent of the RAQP.

12. Part 2 of the RMA

Consideration of an application under section 104 of the RMA is subject to Part 2. 'Subject to' gives primacy to Part 2 and is an overriding guide when applying the provisions of the RMA.

Part 2 of the RMA sets out the purpose of the RMA, which is to promote the sustainable management of natural and physical resources, and in sections 6, 7 and 8 sets out matters that consent authorities should consider when exercising their functions under the RMA.

12.1.1 Section 6 – Matters of National Importance

In exercising its powers and functions under the RMA, the Greater Wellington Regional Council (GWRC) is required to recognise and provide for the matters of national importance listed in section 6 of the RMA. I have identified the following matters to be of relevance to this application;

- Section 6(a) – *the preservation of the natural character of….rivers and their margins, and the protection of them from inappropriate …use and development;*

- Section 6(e) – *the relationship of maori and their culture and traditions with their ancestral lands, waster, sites, waahi tapu and other taonga;*

- Section 6(g) – *the protection of recognised customary activities*

I consider that when this proposal is considered as a whole, it will meet Section 6 of the RMA and that any matters of national importance relevant to this application will be provided for.

It has been discussed in Section 9 that the cultural effects of the proposal can be adequately addressed and mitigated through proposed conditions and the preparation of the Tangata Whenua Values Monitoring Plan, therefore Sections 6(e) and (g) have been addressed.

In relation to 6(a), the natural character of the Ruamahanga River is not listed in the RFP as having a high degree of natural character which requires protection. The section of the River in which this discharge occurs is in a degraded state, and it is anticipated that the removal of the discharge from the River will contribute to the Rivers overall enhancement. The design and implementation of the land discharge systems will need to be done in such a manner to ensure the streams running though or adjacent to the land discharge areas are protected from runoff and/or leaching of contaminants that would otherwise degrade water quality.

12.1.2 Section 7 – Other Matters

The other matters to which GWRC must have particular regard in relation to managing the use, development, and protection of natural and physical resources are listed in section 7 of the RMA. I have identified the following matters to be of relevance to this application;

- Section 7 (a) – *kaitiakitanga;*
- Section 7 (aa) – *the ethic of stewardship*;
- Section 7 (b) - *the efficient use and development of natural and physical resources*;
- Section 7 (c) - *the maintenance and enhancement of amenity values*;
- Section 7 (d) - *the intrinsic values of ecosystems*;
- Section 7 (f) - *maintenance of enhancement of the quality of the environment*;
- Section 7 (h) - *the protection of trout and salmon*

I consider that when this proposal is considered as a whole, it will meet Section 7 of the RMA.

It has been discussed in Section 9 that the cultural effects of the proposal can be adequately addressed and mitigated through proposed conditions and the preparation of the Tangata Whenua Values Monitoring Plan, therefore Sections 7(a) and (aa) have been addressed by the proposal. In addition to this, as outlined in Section 9, the amenity values, and the quality of the Ruamahanga River environment, will be enhanced from the eventual removal of the majority

of the discharge from discharging to the river and so the proposal will meet 7(c) and (f).

In relation to 7(d), the effects of the intrinsic values on aquatic ecosystem health have been considered and are significant (and localised) for the first two and a half years of the consent, then there is a gradual reduction in the level of effects from this point in the staging of the proposal. It is considered that the proposal may not meet this part of section 7 for the first two and half years, however under Section 107 of the RMA, it has been concluded that it is not against the intent of the RMA to allow the granting of this permit, given the temporary nature and exceptional circumstances surrounding the consent.

In relation to 7(h), the Ruamahanga River is not listed in the RFP as having an important trout habitat which requires protection, however, Fish and Game have made a very strong submission to the application in which they recommend it be declined. It is GWRC's position on this matter that the Ruamahanga River has regionally important fishery values (in terms of recreational values associated with fishing), however, the river has not been identified as have specific areas of regionally important trout habitat. Therefore, it is considered that 7(h) is not compromised by this proposal.

12.1.3 Section 8 – Principles of the Treaty of Waitangi

Section 8 of the RMA requires GWRC to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) when considering applications for resource consent. The Waitangi Tribunal and Courts continue to establish the principles of the Treaty of Waitangi and it is recognised that the principles are continuing to evolve. The two key principles that are of relevance to this application are active protection of Mäori interests and consultation.

The principle of active protection has been described as a "guarantee to Maori to continue a relationship with resources that was as much about their use as about their conservation" *NZ Cooperative Dairy Company Limited v Commerce Commission* (1991). In the context of this application, active protection must be taken into account when considering the tangata whenua relationship with their ancestral land, water, waahi tapu and other taonga.

The general requirements of 'consultation' have been well established by the judiciary and Courts both within and outside the RMA. Consultation should facilitate tangata whenua understanding of the effects of a proposal on their relationship with the area in question to a point where the applicant can consider how those effects might be avoided, remedied or mitigated. GWRC requires this kind of information to be able to assess how the Council can meet its statutory responsibilities.

As already mentioned in this report, the applicant provided a cultural impact assessment[30]prepared by Ra Smith of KkW. In addition to this, the applicant has undertaken consultation with Tangata Whenua and the Maori Standing Committee[31]. GWRC sent notification of the application directly to KkW and

[30] See Appendix 14 of the AEE
[31] See Page 107 of the AEE for details on consultation

Rangitane o Wairarapa. A submission was received by Ra Smith on behalf of KkW.

In summary, I consider that sufficient consultation has been undertaken by both the applicant and GWRC to satisfy the requirements of Section 8 of the RMA.

12.1.4 Section 5 – Purpose and Principles

Section 5 defines "sustainable management" as:

> *"managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enable people and communities to provide for their social, economic, and cultural wellbeing 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."*

It is considered that, on balance, this proposal will meet the overriding purpose and principles of the RMA. The continued operation and upgrade of a community infrastructure will allow for the people and community of Martinborough, to provide for their social and economic wellbeing, along with their health and safety. At the same time, SWDC have put in place a wastewater strategy to enable the gradual removal or significant reduction of wastewater from the river, this will be a decrease in the significance and spatial scale of the effects on the life supporting capacity of the river. The duration and nature of effects during the first two and a half years are of sufficient temporary nature and exceptional circumstances under Section 107 to allow this discharge to be granted for the timeframes proposed.

13. Conclusions

After considering all the matters outlined in my report, I consider that:

- there will be significant adverse effects on the aquatic ecosystems of the Ruamahanga River after the zone of reasonable mixing for the first two and a half years of the term of the consent and the current discharge will remain for the entire period of Stage 1A;
- it is considered that these significant adverse effects are of a temporary nature and have sufficient exceptional circumstances surrounding them to allow consent to be granted without going against the intent of the RMA;
- during Stage 1B, the effects on the Ruamahanga River will be reduced, however the level of these effects is uncertain and it is possible there could

still be some significant localised effects during this stage. The applicant will need to undertake monitoring of the near zone river health to reduce this level of uncertainty. The risk of these effects being significant and the uncertainty being able to be eliminated is acknowledged by Dr Ausseil as being low. However, it is still a risk which needs to be acknowledged and is a risk to the proposed system being able to proceed as per the proposal in the AEE and that a review would need to be undertaken or SWDC apply for variation to the consent;

- there is some uncertainty surrounding the suitability of the Pain Farm and if the volumes of effluent which are proposed to be applied during Stage 2A and 2B can actually be met (given the potential effects on groundwater, soil saturation and nearby streams from the effluent discharge). This uncertainty needs to be addressed through the formulation of a site specific Land Discharge Management Plan which takes all the uncertain factors into account. There is an element of risk that SWDC will need to find additional land and/or increase the storage through future additional consents;

- SWDC has a poor compliance history, in particular breaches of water quality standards, even after the standards were reduced by way of a recent variation to their consent. The SWDC were party to the amended standards in this variation, so they were deemed to be reasonable at the time of granting the variation;

- although the effects on the Ruamahanga River are being gradually reduced, this proposal is still discharging to water over a period of 20 years and so as such, is primarily a discharge to water permit as opposed to a discharge to land. Detailed monitoring undertaken during the course of this consent should give an indication if the proposed system is the best practical option for the land at Stage 1B and 2A, if complete removal of the discharge from water is the best option, or if a combination of land and water regime is the best long term solution.

- the proposal, when considered as a whole, will meet the intent and the relevant objectives and policies of the NPS-FM, RFP, RDLP and RAQP;

- the proposal, when considered as a whole, will meet Part II of the RMA and that sustainable management of the Ruamahanga River will be achieved whilst providing for the people and community of Martinborough to provide for their social needs and for their health and safety; and

- the recommended conditions of consent will ensure that any actual and potential effects are avoided and mitigated.

14. Recommendation

I recommend, pursuant to Sections 104, 104B, 105, 107 and 108 of the Resource Management Act 1991, that the Hearings Panel should **grant** consent WAR120258 [31707, 32044, 32045 & 33045] to discharge contaminants to land, air and water associated with the proposed long term upgrade and

operation of the Martinborough Wastewater Treatment Plant, for the term outlined in section 15 and subject to the recommended conditions of consent in Appendix 1 of this report.

15. Duration of consent

The applicant has applied for a 35 year duration, however I consider that a duration of 25 years is more appropriate as it will allow the applicant to operate with a high degree of certainty and allow them to complete stages and get to an operational level within the proposal, while allowing Greater Wellington Regional Council to ensure that the level of uncertainties with the application and the level of risk associated with those uncertainties can be controlled.

During the first two and a half years, there will be a continuation of the (already existing) significant localised adverse effects occurring on the Ruamahanga River. GWRC considers these to be of a sufficiently temporary nature and the circumstances surrounding them to be exceptional to allow this to continue under Section 107 of the RMA.

After the first two and a half years, the effects are significantly reduced on the Ruamahanga River over a gradual period, as finances of SWDC allows in line with their wastewater strategy. There is some uncertainty surrounding Stage 1B effects and the level at which they occur in terms of severity and spatial scale. These effects can however be adequately dealt with through the near zone river health monitoring and the report on the level effects occurring and if the ZRM correct. Dr Ausseil considers the level of risk surrounding Stage 1B is low and that the monitoring should be indicative that Stage 1B has seen a significant reduction in the level of effects occurring on the Ruamahanga River. However should this not be the case, SWDC will either have to work within the parameters of their consent to reduce the effects or worst case scenario, seek to vary the consent.

At the point of 25 years, Stage 2A would be operational, and Stage 2B storage will be in place and operational for five years, and as such the discharge will be significantly reduced into the river and it has been concluded in Section 9 of my report that the effects at this stage are no more than minor.

There is some level of uncertainty surrounding the ability of the Pain Farm to be able to take all of the effluent which is proposed to discharge onto this land, and therefore the level of effluent which will be put into the river during Stage 2A, and the subsequent level of storage required at Stage 2B. This is an issue which has a risk element to the proposal being able to proceed as per the AEE. However through the preparation of management plans and monitoring during the initial few years of the consent, it is hoped that the issue can be resolved either by way of proof that the land is capable of taking the effluent (and therefore the proposal can proceed as per the AEE), or that further land and/or storage is required to support the proposal. If the latter was the case, then SWDC would need to enter in to another consenting process to enable discharge to land at another site (or discharge more volumes to water).

It does not therefore follow any reasoned logic to give SWDC any less than a 25 year duration. By giving less than 25 years, GWRC would be limiting SWDC from a solely risk based approach rather than effects based one.

It is early on in the consent process that the risk regarding the uncertainties involved with the proposal will be either resolved, or it will become apparent that there are shortcomings which need to be resolved. The first hurdle will be the Land Discharge Management Plan and confirmation surrounding the uncertainty of the ability of the land to take all the effluent. This will be resolved within 27 months of the commencement of this consent. The second hurdle will be during the years of Stage 1B when the near zone river health study is carried out.

If these levels of risk can be adequately mitigated for GWRC through consent conditions to a level that is acceptable, then, in my opinion, there is no reason why a term of 25 years cannot be granted.

It could be argued that, if at year 25, SWDC has an operational consent with no significant adverse effects occurring and no apparent shortcomings in the proposal, there may be valid justification to grant consent for a term longer than 25 years. I have considered this matter at length and feel that a term of longer than 25 years is too long the following reasons;

- whilst this proposal has a discharge to land component whereby effluent will gradually be removed from the Ruamahanga River (and significant adverse effects reduced), it is still what I consider to predominately be a discharge to water proposal. It could not be described as a discharge to land proposal with an ancillary discharge to water element whilst the land element is procured, constructed and implemented; rather it is a discharge to water with a gradual discharge to land. The proposal begins with discharging to water 100% of the time, this then reduces to a 76% discharge to water (24% to land) for 15 years, then 58% to water (42% land) and then after 20 years it is finally 100% to land. So it is the case that for 20 years there will be a discharge into the Ruamahanga River and some level of effects occurring (albeit significantly reduced from the current situation). I consider 35 years is too long for a predominantly discharge to water consent;

- to make this consent work and operate as per the AEE, there will need to be strict compliance with conditions of consent, in particular preparation and strict adherence to operational and management plans, the monitoring of Stage 1B, and the work which needs to be done to ensure the land discharge areas are viable. In order to achieve this, SWDC and GWRC work closely to ensure any breaches of consent conditions are identified and immediately remedied. SWDC have historically had a poor compliance history which has led to significant adverse effects occurring in the river and continual breaches of consent conditions;

- I believe this poor compliance history has had an impact on submitters concerns regarding SWDC being given a 35 year consent term and I have given this due consideration. Although SWDC and GWRC have been

working together on compliance, there are still breaches and these continue to occur. SWDC need to work to build relationships and trust with GWRC and the submitters through the CLG to reduce this risk over the course of the 25 years term of this consent;

- that in itself 25 years if a long period when considering changes in the planning framework. GWRC are currently reviewing the Regional Plan and a proposed new plan is due imminently. It is likely that the Plan will encourage a greater amount of discharges to land therefore granting this proposal which is predominantly a discharge to water is likely to be contrary to the aims of the emerging planning framework; and

- ensuring that the discharge to land aspect of the proposal follow the best practical option and achieve the best environmental outcomes as technological advances occur during a long duration.

In summary, based on the application and the matters assessed in my report, I consider that an appropriate duration of consent to be 25 years, pursuant to Section 123(d) of the Resource Management Act 1991.

Report prepared by:

Nicola Arnesen
Senior Resource Advisor
Environmental Regulation

Recommendation approved by:

Al Cross
Manager
Environmental Regulation