

Thursday, 1 August 2024

Te Hui o Te Kaunihera ā-Rohe o Heretaunga

Hastings District Council

Strategy and Recovery Committee Meeting

Kaupapataka

Attachments – Vol 1

Te Rā Hui:
Meeting date: **Thursday, 1 August 2024**

Te Wā:
Time: **9.00am**

Te Wāhi:
Venue: **Council Chamber
Ground Floor
Civic Administration Building
Lyndon Road East
Hastings**

ITEM	SUBJECT	PAGE
5.	WAIPĀTIKI WASTEWATER TREATMENT PLANT - BRIEFING FOR THE COMMITTEE REGARDS CONSENT AND INFRASTRUCTURE UPGRADE	
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Waipātiki Wastewater Long Term Solution Project - Preferred Option

Alternatives Assessment Report

Hastings District Council

April 2024

FINAL v1



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Client:	Hastings District Council	
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On behalf of:	Good Earth Matters Consulting Limited	

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Appendix B	Plans and Drawings
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1 INTRODUCTION

1.1 Purpose of Report

This report serves to document the process of the consideration and assessment of alternatives undertaken in developing the preferred option for the long term solution (LTS) for wastewater management at Waipātiki, and to support the associated resource consent application by Hastings District Council.

1.2 Project Drivers, Values and Purpose

The following purpose, drivers and values underpin the approach that has been taken in the consideration of alternatives for the long term plan for wastewater management at Waipātiki. They have been developed drawing from discussions between HDC and its treaty partners, key stakeholders and multi-disciplinary project workshops.

Project Purpose

To develop, consent and implement a long term wastewater solution for the Waipātiki community that meets community and mana whenua expectations for levels of service and environmental outcomes, aligns with HDC's Eco District Strategy¹, gives effect to Te Mana o Te Wai and provides operational and asset management certainty for HDC, the community, tangata whenua and stakeholders for the life of the consent.

Key Drivers/Outcomes Sought

- To secure long term RMA approval for wastewater management at Waipātiki.
- To provide a solution for the Waipātiki Campground wastewater discharge.

Key Project Values

- Enabling delivery of a long term, good-quality wastewater infrastructure, being a wastewater system that is efficient, effective and appropriate for present and anticipated future circumstances.
- Long term ease of operation recognising the remote nature of the community.
- Environmental enhancement and contribute to HDC's vision as an Eco-District.
- Strengthened relationship of HDC with mana whenua, and mana whenua involvement enabled in identification of long-term solution; long term operation and outcomes.

¹ Hastings Eco District Strategy, Te Rautaki Tirohanga Whānui, Strategic Overview, 2021.



1.3 Background Information

1.3.1 Existing Municipal Wastewater System

The existing wastewater service provided by HDC for the Waipātiki Beach community includes primary treatment from connected properties via an interceptor tank with an effluent filter on each property, and secondary treatment via the Council's wastewater treatment plant (WWTP). Treated effluent from the plant is conveyed to a discharge field located within Pan Pac owned plantation forestry to the west of the settlement where it is discharged to land via spray irrigation. The system was installed in 2006 and currently services 59 domestic connections of a maximum allowable 172 connections. Prior to the community system being installed, wastewater management at Waipātiki consisted of individual, privately owned on-site systems on each property.

The WWTP is located on land owned by HDC, and HDC owns the primary treatment tanks on each connected property whilst the pumps are owned by the landowners who have responsibility for costs and maintenance for the primary systems. The effluent disposal field is located on land owned by Pan Pac, and HDC has an easement for the purpose of wastewater disposal.

Figure 1.1 illustrates the existing wastewater treatment process at Waipātiki WWTP (with more detailed plans in Appendix B), while Table 1.1 summarises the components of each stage.

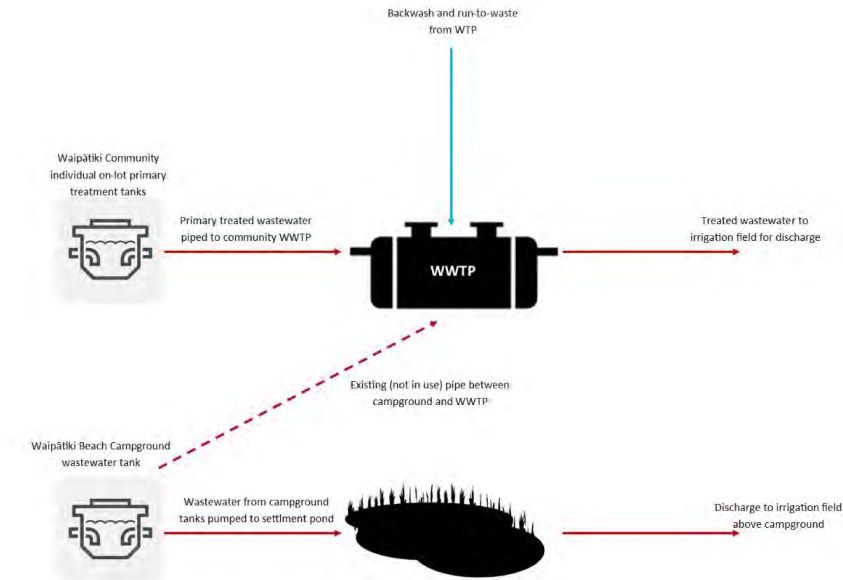


Figure 1.1: Overview of Existing Infrastructure for Waipātiki Community Wastewater System and the Waipātiki Campground Wastewater System. [Detailed Plans are included in Appendix B- As Builts]

Table 1.1: Waipātiki WWTP Treatment Process Description

	Component
Primary Treatment	On site interceptor tank (4 - 7 m ³) fitted with Orenco Biotube Effluent Filter at each property connected to the network (as per Condition 7)
Recirculation Tanks	3 x 23 m ³ = 69 m ³
Textile Media Pods	6 x AX100 pods = 72 m ²
Treated Effluent Tank	3 x 23 m ³ = 69 m ³
Treated Effluent Disposal Area	15,200 m ² (Stage 1 as per Condition 12)

Each domestic property connected to the wastewater network has an interceptor tank on site with capacity of no less than 4 m³ and fitted with an Orenco Biotube Effluent Filter to provide primary treatment, conveyed through reticulation mains to the community WWTP. Primary treated wastewater is then recirculated through textile media (AX100) pods that operate similar to a traditional trickling filter process. During periods of low or no flow, the wastewater is continually fed to the media surface from the recirculation tank. Pumps in the treated effluent tanks are then operated on a time basis to dose secondary treated wastewater to the land disposal area.

Significant monitoring has been undertaken of the community WWTP as part of this project, with compliance data from quarterly samples since 2010 and daily to weekly sampling since 2022. Nutrient loading and overall treatment performance are of a suitable quality for the application type, however, there are some occasions of TSS above the baseline for the discharge. Additional filtration to remove this from the effluent prior to discharge alongside UV treatment to reduce any bacterial risks.

1.3.2 Existing Resource Consents and Consenting History

HDC holds two resource consents in relation to the wastewater system at Waipātiki:

Table 1.2: Existing Resource Consents

Consent Authority	Consent Reference	Activity Authorised	Expiry
Hastings District Council	RMA20050516	Establish a sewage treatment plant at 489 Waipātiki Road, Part Lot 1 DP 13163	N/A ²
Hawke's Bay Regional Council	AUTH-115047-02 and AUTH-115048-02 (held together as one consent)	To discharge: <ul style="list-style-type: none"> i. Secondary treated effluent from the Waipātiki settlement and run to waste and filter backwash water from the Waipātiki Drinking Water Treatment Plant via spray irrigation onto 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 and; ii. to discharge contaminants (odour) into air directly associated with the treatment and discharge of secondary treated effluent described in (i) above. Discharge location: Pt Sec 30, Blk I Tangoio SD (SO 5560), Pt Lot 1 DP 13163	31 May 2025

² Land use consents for activities encompassed by Section 9 RMA are granted in perpetuity unless otherwise restricted.



Variation to Encompass Waipātiki Water Treatment Plant

The WTP in Waipātiki was upgraded in 2020 to meet New Zealand Drinking Water Standards and renewal for the water take consent granted in May 2021. One of the planning considerations in designing and consenting the new water treatment plant was the need for a run-to-waste mode, where water that has been treated but is not compliant with Drinking Water Standards (typically generated as the plant is started and shut down). The run to waste discharge and backwash water from the WTP's green sand and activated carbon filters both need to be discharged and it was established that both environmentally and culturally it was not appropriate for this water to be discharged into the Waipātiki Stream.

Connecting to the existing community wastewater network was the preferred option for the WTP backwash and run to waste discharge, and therefore a variation to the existing WWTP consent needed to be sought to encompass this activity. Maungaharuru-Tangitū Trust (MTT) as mana whenua, was in agreement with this variation, on the proviso that it would not in some way enable, facilitate or encourage additional growth (ie residential development) at Waipātiki. This was a follow on discussion from one already had in relation to HDC's water take permit for drinking water purposes at Waipātiki, which is authorised by AUTH-125382-01 from Hawke's Bay Regional Council. When that consent required renewal in 2021, MTT sought that HDC reduce/restrict the take as far as possible.

HDC undertook detailed analysis of whether this was feasible, and determined that it was not, in order to meet current drinking water demand at Waipātiki. Hence, a like for like renewal was sought, and agreed to by MTT, on the basis that the take provides for the existing community but does not include provision for population growth. This is commensurate with the planning framework that applies to Waipātiki as set out in the Hastings District Plan. There are numerous restrictive zoning provision relating to the coastal environment, flood hazards and sites and areas of cultural significance which apply to the entirety of the Waipātiki area and mean that subdivision and residential development potential there is limited. Any such subdivision and/or development would need to go through an onerous resource consenting process.

The assumption of 'no further growth' is one that has been agreed between HDC and MTT in terms of infrastructure services providing for the existing settlement and population, and not providing for growth by way of 'head room' in consenting processes, including in the upcoming renewal of the WWTP consent.

During investigations into how to connect the water treatment plant to the wastewater treatment plant in order that WTP filter back-wash, start-up and out-of-compliance water could be treated and disposed of there, two key relevant issues were identified. The first was related to water quality - the likelihood of high TSS in the filter backwash and that the consent application reported a level of nitrogen treatment that was not aligned with the design of the treatment plant (which has no specific denitrification processes). In order to address this and to accommodate the WTP backwash water, a PE Buffer tank was installed and additional equipment was potentially needed for nitrogen treatment to fit the current consented limits of this system. Following further assessment TSS and total volume were the main parameters identified as potentially needing mitigation at the time of the WTP connection. The second issue was therefore whether or not there was enough space within the existing HDC owned site to accommodate this equipment.

At that time, there was a significant need to enable the water treatment plant to be connected to the community WWTP as quickly as possible in order to ensure that the Hastings Drinking Water Improvement Project, as the key action response to the Government Inquiry into the Havelock North Drinking Water Contamination, could be completed. There was not sufficient data or understanding of the nitrogen treatment issue at the time to be able justify investment into new equipment for that purpose. It also was not considered efficient to try to address any existing nitrogen treatment issues without also determining a long term solution for the campground wastewater.

Given the need to secure a variation to the wastewater discharge permit such that it could include WTP backwash water, the timing requirements for that project and for the connection from the WTP to the community WWTP to be operational, and the fact that the wastewater discharge permit requires renewal before 2025, it was determined that the nitrogen treatment issue would be investigated further as part of the renewal project. The PE buffer tank (see Appendix B plans) was installed and the WTP backwash connects to the community WWTP discharge post-treatment (Figure 1.1). The variation also altered the irrigation method to spray irrigation instead of drip irrigation. This is deemed more suitable for the forestry discharge area due to the risk of blockages and overflows for drip irrigation in this area. An additional benefit is improved monitoring ability and access for maintenance as the irrigation heads are visible above ground.

1.3.3 Nitrogen Treatment at the Community WWTP and Variation to Nitrate Conditions

Investigations into and assessment work regarding community WWTP performance and compliance, to address the key issues and data gaps identified during the WTP variation process, has been and is continuing to be undertaken. The focus of this is primarily to gain an understanding of the overall nitrogen species in the discharge, their variance throughout the year and the annual nutrient loading³.

Early investigations into the treatment performance and connection of the WTP and campground assessed the current loading from these systems to the community WWTP in the context of meeting the existing community WWTP discharge consent conditions. However, these conditions (namely the nitrate-nitrogen limit) are based on the original application which reported total nitrogen concentrations in treatment that were not aligned with the plant design, which has no specific de-nitrification processes. Consent conditions are also based on an expectation of growth in Waipātiki that is not accommodated for in the current District Plan (as traversed above), hence the expected volume of wastewater and therefore total loading to land was also not aligned with the operational output the community WWTP has since been discharging. Whilst the nitrate-nitrogen discharge (treatment) condition is consistently not being met, the community WWTP is discharging an average annual total nitrogen load of ~80 kg/ha/year which significantly below the 150 kg/ha/year limit in the consent.

Given that the nitrate-nitrogen limit is not commensurate with the potential significant adverse environmental effects (these are better addressed via the total loading condition), HDC is seeking to vary the conditions of the community WWTP to remove the 20mgL nitrate-nitrogen limit and instead add conditions to manage the forms of nutrients present in the discharge and additional monitoring requirements on environmental effects. This consenting process is occurring prior to the renewal of the community WWTP discharge permit, and is contingent upon the outcome of consultation and engagement with MTT. If this variation application does not proceed, HDC will be seeking the same approach via proposed conditions of consent on the long term consent application.

This assessment of the monitoring data and collaboration with MTT as part of the project team identified that the main residual risks from the discharge are TSS and bacteria, these are typically within an acceptable range but in certain weather conditions can be elevated. Addition of a TSS filtration system and UV treatment to the WWTP was therefore identified as providing a greater benefit to the receiving environment and discharge quality than additional nitrate treatment.

1.3.4 Waipātiki Campground Wastewater

The Campground currently treats effluent within an on-site system discharging to land after primary treatment and an oxidation pond (see Figure 1.1 and Appendix B plans). Following the purchase of the Campground by HBRC, HDC and Napier City Council, the resource consent (DP130307L) was

³ DRAFT Good Earth Matters, Technical note, WWTP Loading and Performance; and; Good Earth Matters, May 2023, Technical note: Nitrogen Consent Limits.



transferred to HBRC. HBRC are therefore the landlord for the tenant who operates the campground, the consent authority and hold the current consent for the campground system. This consent expires in May 2024, and an application to renew the needed to have been lodged by end of November 2023 in order to secure section 124 RMA rights to continue to operate under the existing consent until a new consent is determined (or alternatively by the end of February 2024 to secure s124 rights at the discretion of the consent authority). It is understood that an application has been lodged by HBRC for this purpose, seeking a short term (2 year) consent on the basis that the campground effluent discharge will be encompassed by the LTS application later in 2024.

Wastewater from self-contained cabins, lessee accommodation, campervan discharge points and toilet blocks at the campground drain to a septic tank system before being pumped to an oxidation pond located on the hill behind the campground. When the pond is full valves are opened to allow irrigation to the forest via fixed sprinklers (6 lines with 3 sprinklers). From available sample results of the campground (Appendix C), the campground influent has an elevated nutrient load, greater than earlier testing on the community WWTP influent. There are administrative and sampling non-compliances in the campgrounds consenting history such that there are data gaps on the influent and effluent sampling and maintenance records. Further, recent inspections of the oxidation pond post-cyclone Gabrielle have indicated there are not insignificant engineering works for the pond to be in a suitable condition for continued use in the medium to long term.

The campground purchase was jointly funded by NCC, HBRC and HDC in 2016. The three have differing roles and responsibilities per the Deed of Nomination for the purchase⁴.

- NCC contributed \$300,000 to the purchase but did not wish to otherwise take an ownership interest in the property.
- HDC contributed \$300,000 to the purchase and nominated HBRC as purchaser under the agreement and to take title to the property.
- HBRC contributed \$300,000 to the purchase and accepted Hastings' nomination of Regional Council as purchaser and to take the title to the Property from the Operative Date.

Clauses 3(a) through (i) of the Deed of Nomination set out Hastings' obligations and clauses 4(a) through (d) set out HBRC's (Regional) obligations. Those of relevance to the wastewater system at the campground are quoted below:

- 3) *(h) maintain an effective wastewater system for the Campground at all times. Hastings will connect the campground to the Waipātiki sewerage scheme owned and operated by Hastings by 30 June 2018, unless Hastings and Regional agree an alternate later date for such connection;*
(i) meet the costs of any future connections to the Hastings District Council Waipātiki water scheme.
- 4) *(c) enforce the maintenance and repair obligations under the campground lease against the tenant in respect of all services supplied to the Campground (including water and sewerage systems) and the maintenance of the right of way.*

Figure 1.2, below, summarises these roles alongside that of the lessee to the Waipātiki Campground, referred to as campground operators.

⁴ Deed of Nomination dated 12 October 2016, between Hastings District Council and Hawke's Bay Regional Council.

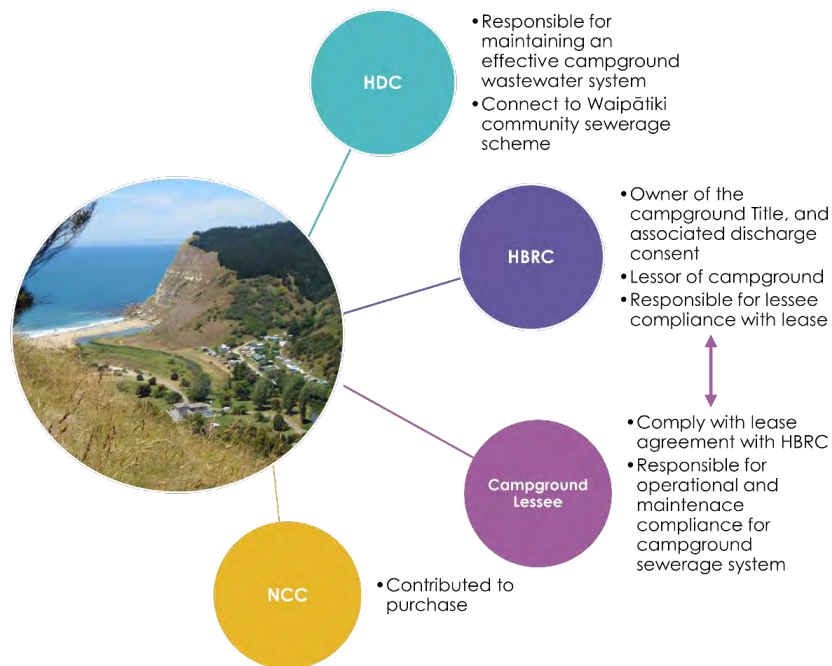


Figure 1.2: Roles and Responsibilities for the Campground

HDC responsibilities for maintaining the effective campground sewerage system (3(h) above), per the deed of nomination⁵, include for HDC to use their maintenance contractor for the community WWTP to undertake maintenance on the Waipātiki Beach campground sewerage system. Costs associated with this maintenance are understood to be HDC's responsibility.

The consent for the discharge (DP130307L) was transferred to HBRC on 21 September 2017. The consent authorises the "discharge [of] secondary treated domestic effluent from a camping ground onto the ground in circumstances where contaminants (or any other contaminants emanating as a result of natural processes from those contaminants) may enter water" at the Legal site 'Pt Sec 30 Blk I Tangoio SD'. The responsibility for compliance with the conditions is split between HBRC, HDC and the Waipātiki Beach campground operators relative to their roles in management of the campground system.

The lease for the Waipātiki Beach campground was in place prior to the purchase by HDC, HBRC and NCC. The lease transferred to HBRC as the new owner and the lease will expire in 2031. The lease⁶ states:

"The lessee is responsible for compliance with any resource consents

The lessee is required to pay operating expenses and maintenance costs for the sewerage system and an 80% share of the maintenance costs for the access road."

HBRC have nominated the lessee as responsible for the compliance of the system with the conditions set out in DP130307L, while HBRC has a responsibility to ensure that the lessee fulfils this obligation.

⁵ Deed of Nomination dated 12 October 2016, between Hastings District Council and Hawke's Bay Regional Council.

⁶ https://hawkesbay.infocouncil.biz/Open/2016/08/RC_31082016_AGN_AT.HTM



HDC identified it would not be feasible to connect the Waipātiki Beach campground by the initial date of 30 June 2018 and have been conducting investigations into required options to connect the Waipātiki Beach campground wastewater to the Waipātiki community sewerage scheme or if not feasible, independent improvements to both wastewater systems to achieve an equivalent outcome. HDC have commissioned the Waipātiki Wastewater Long Term Solution project to address these matters and have been working with the lessee in the interim to investigate performance issues and support the minor upgrades required to address these.

Initial investigations⁷ regarding the Waipātiki Beach campground wastewater system indicated that it is currently not performing to the necessary treatment standard (Appendix C) and that there are concerns around the condition of the primary tank. Similarly to the early investigations into the nitrogen issue at the community WWTP, early investigations considering how to connect the Waipātiki Beach campground wastewater to the community WWTP were based on the current campground effluent quality (i.e. untreated wastewater that is not at the standard required under the consent or for wastewater services) and the 20mg/L nitrate-nitrogen limit in the existing community WWTP consent. These investigations were helpful in terms of understanding the current situation at the campground, and have highlighted that the option of conveying untreated wastewater from the campground to the community WWTP for treatment would require significant upgrades at the community WWTP particularly if the existing nitrogen-nitrate limit were to continue to apply. The technical memorandum included in Appendix C, summarises the currently available information from these available results and investigations. However, the assessment of alternatives set out in this report looks to reconsider the assumptions that those assessments were based upon and take a more pragmatic and holistic approach to optioneering by focusing on environmental effects and outcomes, and at the system and consenting regime as a whole rather than as a series of process/treatment components.

1.3.5 Legislative Context for Consideration of Alternatives

The Resource Management Act 1991 (RMA) includes specific requirements for consideration in relation to applications for discharge permits. A consent authority making a decision on a discharge permit application is required to have regard to the nature of the discharge and the sensitivity of the receiving environment to adverse effects; the applicant's reasons for the proposed choice; and any possible alternative methods of discharge, including discharge into any other receiving environment.

Additionally, if it is likely that the proposed discharge will result in any significant adverse effect on the environment, the Act requires that an application include a description of any possible alternative locations or methods for undertaking the activity.

The use of a 'best practicable option' assessment is common and considered best practice in relation to discharge permit applications, and for wastewater applications in particular, in order to satisfy these requirements. The onus for a complex, detailed and highly technical BPO assessment is proportionate to the potential scale and significance that the activity may have on the environment, as set out in the Fourth Schedule of the RMA. There is no evidence to suggest that the existing wastewater treatment plant is causing significant adverse environmental effects, and there is no proposal to change the system such that this would occur. As such, and as detailed later in this report, the approach to the consideration of options is a qualitative one, based on the consideration of numerous drivers and aspects.

The legislative context for optioneering also includes the National Policy Statement for Freshwater Management 2020 as well as the Water Services Act 2021, both of which require that Te Mana o Te Wai is given effect to. Te Mana o Te Wai is defined for the purposes of those statutes as:

⁷ GHD, February 2023, Design Basis and High Level Augmentation Concept.

"1.3 Fundamental concept – Te Mana o te Wai

Concept

- (1) *Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.*
- (2) *Te Mana o te Wai is relevant to all freshwater management and not just to the specific aspects of freshwater management referred to in this National Policy Statement.*

Framework

- (3) *Te Mana o te Wai encompasses 6 principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater, and these principles inform this National Policy Statement and its implementation.*
- (4) *The 6 principles are:*
 - (a) *Mana whakahaere: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater*
 - (b) *Kaitiakitanga: the obligations of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations*
 - (c) *Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others*
 - (d) *Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future*
 - (e) *Stewardship: the obligations of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations*
 - (f) *Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.*
- (5) *There is a hierarchy of obligations in Te Mana o te Wai that prioritises:*
 - (a) *first, the health and well-being of water bodies and freshwater ecosystems*
 - (b) *second, the health needs of people (such as drinking water)*
 - (c) *third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future."*

A robust consideration of alternatives also forms part of HDC's due diligence process in terms of its responsibilities under the Local Government Act relating to costs for the provision of services and expectations by ratepayers for transparency and prudent investment decisions.

1.3.6 Mana Whenua Involvement

During the course of the Small Communities Drinking Water Upgrades project during which the new Drinking Water Treatment Plant at Waipātiki was constructed, the HDC team made considerable progress towards building a positive relationship with Maungaharuru-Tangitū Trust (MTT), as its Treaty Partner and as mana whenua of Waipātiki and the wider area. The continued emphasis on this relationship has been an important project value for the wastewater LTS from its inception.



MTT is a key part of the LTS project team and resourced as such, with involvement in the identification and assessment of options, and will also be directly involved in the development of the resource consent application as well as undertaking the Cultural Impact Assessment.

It is envisaged that MTT will have input into and carry out (if desired) the sampling and monitoring regime for the long term consent. The development of a consenting and monitoring regime that encompasses mātauranga Māori and enables measurement of and progress towards key outcomes for mana whenua is a key part of the consenting approach.

1.3.7 Stakeholders and Potentially Interested Parties

In addition to mana whenua, there are a number of key stakeholders with an interest in the Waipātiki wastewater long term solution project including:

- Waipātiki Community Association
- Hawke's Bay Regional Council as joint owner/operator of the Waipātiki Beach campground
- Pan Pac as owners of the land on which the wastewater is discharged
- Owners of land surrounding and access road to the community WWTP (Perrys).

HDC recognises these stakeholders as a key part of developing the long term solution. HDC also recognises the importance of its relationship with the Waipātiki Beach Campground managers for this project.

Other potentially interested parties include:

- HBRC in its capacity regarding flooding impacts management and stream and species restoration and enhancement
- Department of Conservation
- Fish and Game New Zealand
- Te Whatu Ora.

These parties will be consulted with, as appropriate, as the development of the resource consent application progresses.

2 APPROACH TO ALTERNATIVES ASSESSMENT

2.1 Alternatives Assessment Approach

The original, planned approach for considering alternatives and developing a preferred long-term solution, and any necessary BPO testing, was highly structured and linear, whilst being heavily focused on collaborative workshops with technical experts including cultural experts and mana whenua:

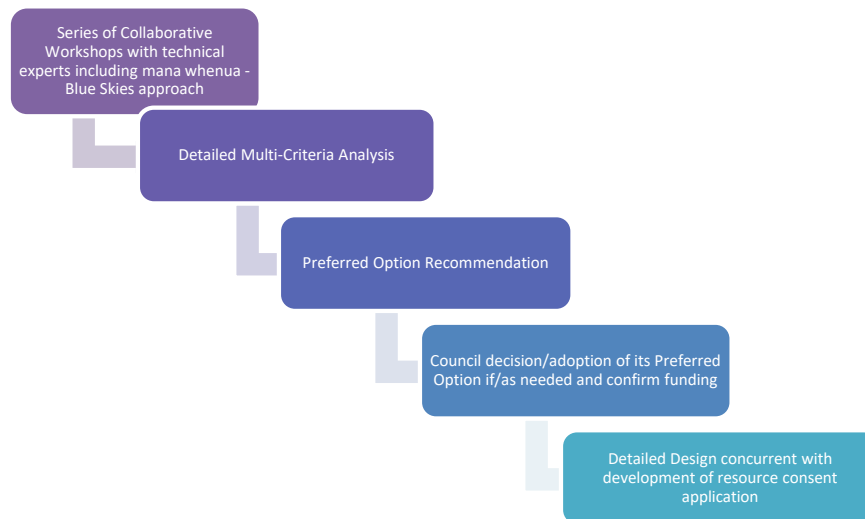


Figure 2.1: Alternatives Assessment Methodology- Original

This approach had to be modified due to the impact of Cyclone Gabrielle on all parties involved in this project, on accessibility to Waipātiki and on resources, especially for Maungaharuru-Tangitū, Hastings District Council and Hawke's Bay Regional Council. These impacts are on-going, and the continued contribution of all parties to the project despite this is acknowledged here.

There was a need to simplify the approach such that a robust consideration of alternatives could be ensured. It was however not feasible to undertake collaborative workshops with all contributing technical experts as planned in early 2023, and the need for parties to focus on other priorities had to be taken into account. Additionally, the 'blue skies' approach to a long term solution was no longer considered an appropriate starting point and funding considerations also changed post-cyclone.

The revised approach for developing a preferred option for the long term solution for wastewater management at Waipātiki represents a more simplified version of the initial approach. It is a less linear and more iterative approach that sits well within the context of the various current constraints and influencing factors that must be considered in determining a preferred approach.

As the project has progressed, understanding of the current functioning of both the community WWTP and the Waipātiki Beach campground wastewater system has increased. The revised approach is considered to better align with the scale of environmental risk associated with wastewater management at Waipātiki. The existing community wastewater discharge is to productive forestry land and there is no evidence of significant adverse impacts currently occurring. Rather, the installation of the system has contributed to positive environmental and community outcomes in terms of fish populations in streams at Waipātiki⁸.

The RMA, and section 105 in particular, places a more onerous requirement for the demonstration of 'best practicable option' on activities where effects have the potential to be significantly adverse. As discussed later in the 'fatal flaws screening' discussion, the alternatives assessment approach is predicated on developing an option that will not have significant adverse environmental effects but

⁸ HBRC, *State of the Environment. 2018-2021*, <https://www.hbrc.govt.nz/assets/Document-Library/Reports/SOE-3-Year-report/2018-2021/SOE-2018-2021-digital.pdf>.



rather will result in overall improvement to the existing situation and improved environmental outcomes over time from both the community and Waipātiki beach sewerage schemes.

Hence, the revised and simplified approach for alternatives assessment accords with the 'horses for courses' provisions of the Fourth Schedule of the RMA which requires that an application for resource consent must include an assessment of the activity's effects on the environment that "includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment".

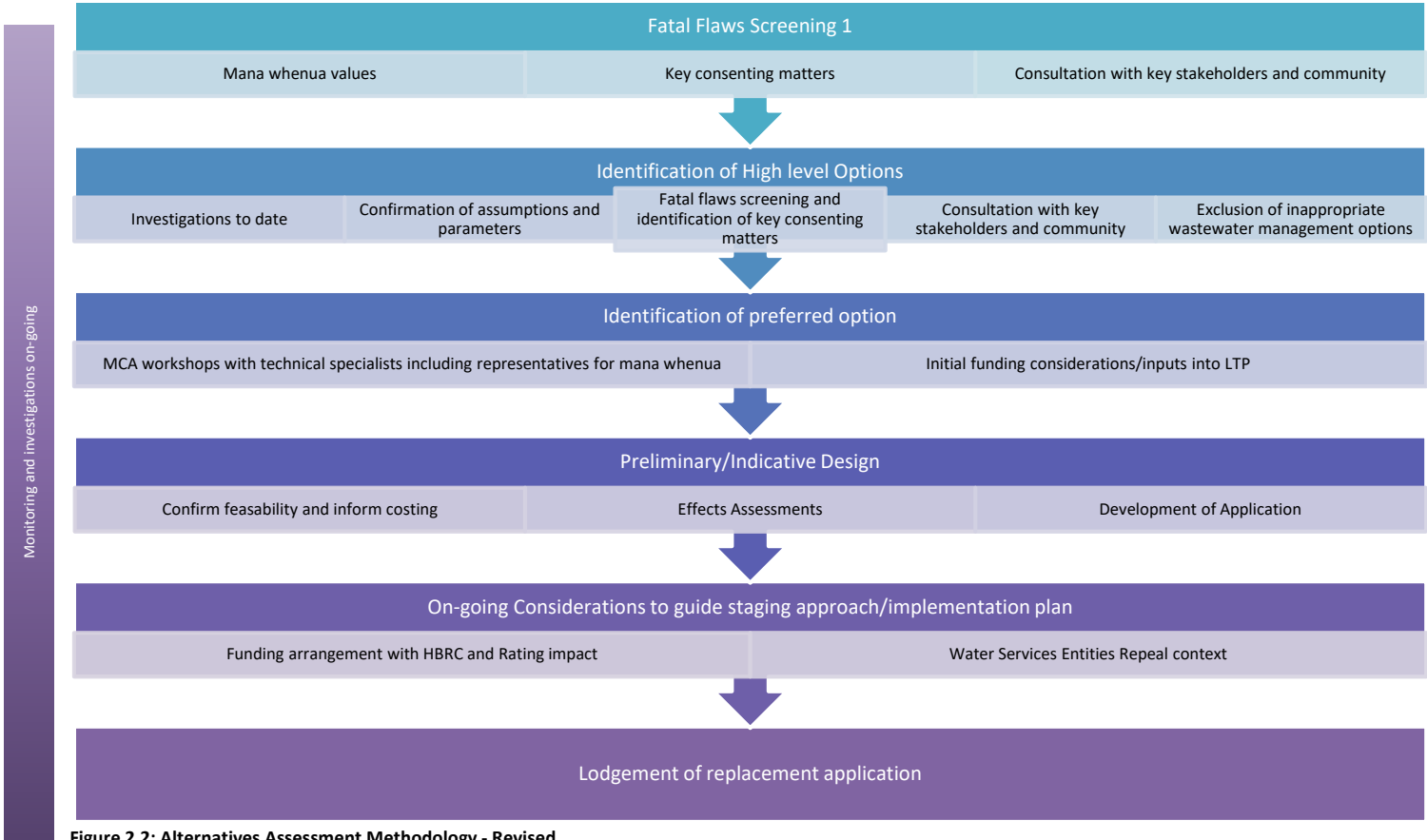


Figure 2.2: Alternatives Assessment Methodology - Revised



2.2 Multi Criteria Analysis

A multi-criteria analysis (MCA) framework has been developed to assist in identifying a preferred option for the long-term solution for wastewater management at Waipātiki. The framework is derived from the key project drivers, values and purpose and is cognisant of the legislative, social, cultural and economics context within which the solution is being developed and has been derived from best practice and guidance⁹. Additionally, and critically, the criteria relating to effects on MTT hapū values have been derived from a set of values, protection principles and associated criteria provided by MTT's technical expert and are included at Appendix A

The assessment criteria for the MCA have been developed taking into account various investigations and considerations to date, including inputs from mana whenua and stakeholders. The assessment criteria are identified and discussed below.

2.2.1 Discussion of Assessment Criteria

Initially, a very detailed MCA framework was established to attempt to capture a very wide range of costs, benefits and potential eventualities. In the course of discussions within the Project Team, and taking into account the simplified project approach already described above, it became clear that the MCA was overly complex for this purpose given the nature of the options. Hence, a simplified version was developed to incorporate the key issues from the contributing technical experts and that is what is presented here.

The assessment criteria and the factors considered for each are set out in Table 2.1 below.

Table 2.1: Assessment Categories and Criteria

Category	Criteria
MTT Hapū Values	<ul style="list-style-type: none"> Minimise effects of the discharge (BAU and failure) on environment and mahinga kai Minimise effects of physical site works on ecosystems and sensitive environments Lowest possible carbon emissions and full life cycle cost considerations Discharge quality doesn't diminish mauri of receiving environment Protection of wahi taonga particularly former Pā sites of tipuna occupation Minimisation of effects on groundwater and surface water quality Protection of mahinga kai species Consideration of wider effects on mauri of the area and ability/opportunities for mauri enhancement Opportunity for participation of MTT hapū in monitoring regime and enhancement work Active partnership with HDC in the delivery of Council services Treated effluent to have no impact or effect on nearby communities including drinking water supplies, particular risks from enteroviruses and nitrates. Where an effect is possible, enhanced treatment needs to be considered

⁹ Infrastructure Australia, Australian Government Guide to MCA, Technical guide of the assessment framework (2021).

NZTA multi-criteria analysis: User guidance.

MBIE, Which analytical tools are suited to transformative change? (2023).

System Improvement Options: Multi Criteria Analysis IN Water NZ, Infiltration and Inflow Practical Guidelines.

Category	Criteria
Engineering feasibility and constructability	<ul style="list-style-type: none"> The site and design are geotechnically suitable The site meets a manageable flood risk standard, the site and design have mitigations to reduce effects in flood events The design and management, particularly of the irrigation equipment is reflective of the likely damage in harvest periods periodically for the lifetime of the infrastructure. The design would not impact Pan Pac harvest
Consenting Pathway Considerations	<ul style="list-style-type: none"> Aligns with the objectives, policies and requirements of the NPSFM2020 Gives effect to Te Mana o Te Wai Has less than minor effects to the receiving environment Improves environmental outcomes from the current situation The effects of the option are no greater than the currently consented envelope The option is consistent with the objectives, policies and rules of the District and Regional Plans The option is able to be consented in a comprehensive but streamlined way that enables operational clarity
Property Considerations	<ul style="list-style-type: none"> Availability of land, its suitability and location Land acquisition, costs and the logistical feasibility of its purchase Legal considerations around property acquisition, including suitable justification for its acquisition by HDC
Cost	<ul style="list-style-type: none"> Capital costs Rating impacts On-going and operational costs
Operational and maintenance requirements	<ul style="list-style-type: none"> Level of service The operational and maintenance requirements of the option are feasible for HDC resourcing to achieve The option meets or exceeds current and (likely) future requirements such as Taumata Arowai WW performance standards The option includes equipment that can be serviced locally and/or on site The option will be able to operate during significant events, even at a limited capacity
Asset management considerations	<ul style="list-style-type: none"> HDC has ownership and responsibilities for the infrastructure that aligns with their management strategy and is most effective for their management of the community WWTP The ease with which the assets can be transitioned to the new 3W entities (if these or similar are enacted), i.e., where the community WWTP will but Waipātiki Beach campground wastewater system would not The asset lifetime is suitable under HDC asset management strategy, and is reflective of the investment in a long-term solution
Stakeholder values/inputs	<ul style="list-style-type: none"> MTT support the option in principle Affected parties (under the RMA) for the application support the option in principle The Waipātiki Community Association support the option and proposed cost and service provision in principle Landowners directly affected (Pan Pac and the Perrys) are supportive of the option and long term management approach



2.2.2 Scoring

The scoring methodology was developed following from the assessment framework guidelines presented in the Infrastructure Australia guidance and taking into account best practice guidance referred to above. The methodology using the criteria set out in the table above as measures for the magnitude of effect to score a particular criteria as shown in the scoring table below.

Table 2.2: MCA Scoring Scale

Score	Magnitude	Scoring Criteria/Examples
1	Significant negative	Strong negative impact for the criteria eg significant misalignment with regulation, cost to community or adverse environmental effects
2	Moderate negative	Moderate negative impact for the criteria eg moderate social impact via rates/costs, more than minor adverse environmental effects
3	Neutral	No significant positive or significant negative impact eg does not improve environmental outcomes but does not cause more than minor adverse effects, cost in-line with reasonable rate increases or within existing budget
4	Moderate positive	Moderate positive impact for the criteria eg moderate improvement over currently consented effects, moderately above current standards, moderate costs savings/avoidance of costs incurred
5	Significant positive	Significant benefit for the criteria eg significant improvements over existing situation, alignment and affordability

2.2.3 Weighting

Consideration was given for a weighting exercise for the MCA results shown in Table 3.6 particularly with consideration to cost and effects on ratepayers and stakeholders. An initial exercise indicated that weighting for key criteria skews the results further towards the initial preferred option from the MCA scoring. In this instance, a detailed weighting exercise does not improve the robustness of the assessment and may be unnecessary. If it is considered valuable by other stakeholders to undertake a detailed weighting exercise this can be completed, and this report updated.

2.3 Supporting Technical Information

A number of technical investigations and assessments have been undertaken which have contributed to the understanding of the existing system and scale of actual and potential effects currently occurring. The following documents have been considered in the alternatives assessment and carrying out of the MCA.

Plans, Diagrams and Drawings

- Waipātiki Beach - WTP BW Inlet Works: AdvanTex Wastewater Treatment Plant, August 2021, Drawing No 210753399-10, V1 and 210753399-11, V1
- Waipātiki Beach, Advantex Wastewater Treatment Plant Asbuilt, July 2006, Drawing No. 0409535-5, R1
- Process Flow Diagram (PFD) with mass Balance - Waipātiki WTP, May 2019, Drawing No. 4588-B-001, Issue B.

Relevant Waipātiki Community WWTP and WTP Consent Applications, Variations and AEEs

- Waipātiki Beach Sewage Discharge to Land and Discharge to Air, Resource Consent Application and Assessment of Environmental Effects, September 2005, Glasson Potts Fowler



- Variation to Consent No. DP050397L - Discharge from Waipātiki Wastewater Treatment Plant onto Land, September 2021, Application and Assessment of Environmental Effects
- Renewal of Consent no. WP000084Ta - Groundwater Take for the Waipātiki Public Water Supply, February 2020, Resource Consent Application and Assessment of Environmental Effects.

Technical Memorandums, Reports and Datasets

- Waipātiki Wastewater Treatment Review, April 2021, Stantec Report
- Hastings District Source Water Risk Management Plan, November 2022, Working Draft V1.0
- Sampling Plan, 13 December 2022, GHD Technical Memorandum and Design Basis and High Level Augmentation Concept, February 2023, GHD Technical Memorandum
- Results from Sampling in above GHD memo provided by HDC as Hills laboratory sheets and excel spreadsheets
- Email dated 06/03/2024 details the interim works to the campground¹⁰
- Monitoring recommendations for consenting data, 18 August 2023, GEM Technical Memorandum and Waipātiki WWTP Monitoring for Consenting, 12 December 2023, GEM Technical Memorandum
- Results from sampling in GEM memos provided direct by Hills and sampled by HDC staff, including field observations
- Ongoing monitoring results summarised (to Date in January 2024) in Monitoring data from 2022 and 2023 and implications for design and effects, DRAFT, GEM Technical Memorandum
- Waipātiki WTP and WWTP: Impact of WTP Discharges on WWTP, DRAFT, GEM Technical Memorandum (13 March 2024)
- Nitrogen Loading and Compliance at Waipātiki WWTP, May 2023, GEM Technical Memorandum.

3 DISCUSSION OF ALTERNATIVES ASSESSMENT AND MCA OUTCOMES

3.1 Fatal Flaws Screening and Identification of Key Consenting Matters

As part of the Consenting Strategy, Preliminary Effects Assessment and early consultation and partnership discussion, key consenting matters were identified to support the Optioneering phase. The information from preliminary and ongoing investigations helped inform the fatal flaw and MCA process. These are summarised below and referred in more detail in the Good Earth Matters Consulting report Waipātiki Wastewater Long Term Solution, Preliminary Assessment of Effects, March 2023.

3.1.1 Key Consenting Matters

Ongoing discussions and technical work led by MTT considered cultural effects in relation to the options and sensitive sites to be avoided. The area north-west of the current community WWTP, further inland from the settlement, has Mānuka and Kānuka (threatened species). Several bird species are observed in the area and those with a high conservation status are found in the coastal marine areas, away from the community WWTP.

¹⁰ This included replacement of the holding tank pump, installation of holding tank level sensors for pump start/stop, replacement of pipe work and sprinklers on 3 of 6 lines and assessment of remaining lines for replacement.



The location of Waipātiki presents geological constraints in terms of earthquake risks, access constraints and landscape and settlement requiring wastewater and water treatment processes in proximity to the settlement. The water supply is managed with a Source Protection Zone (SPZ) and Source Water Risk Management Plan (SWRMP). The SWRMP details the underlying geology, aquifer characteristics and possible risks to the source water. The WTP uses a bore in the deeper aquifer (~30m below ground level) overlain by a confining layer, while there is shallow groundwater in the permeable layers above. These confining layers are present on the flat areas and less so or not at all in the surrounding hills, allowing for recharge via rainfall at an approximate average groundwater age of 50 years from recent studies.

While the discharge area is in forestry land, the nearby Kowhiro Stream environment is being restored to support the banded kōkopu found in the area. Kowhiro Stream joins Waipātiki Stream and meets the ocean in Waipātiki lagoon. The Waipātiki Stream and lagoon are of poor water quality¹¹ from animal faecal contamination and catchment wide issues. The coastal location and streams intersecting the area present a flood risk to the infrastructure as shown in Figure 3.1 below.



Figure 3.1: Flood Risk Map from Hawke's Bay Hazard Portal, as at 22 February 2024

3.1.2 Mana Whenua

The Hapū of Maungaharuru to Tangitū are Marangatūhetaua (also known as Ngāti Tu), Ngāti Whakaari, Ngāti Tauira, Ngāti Kurumōkihi, Ngāi Te Ruruku Ki Tangoio and Ngāi Tahu, are represented by Maungaharuru-Tangitū Trust (MTT). MTT's takiwā is located in northern Te Matau-a-Māui (Hawke's Bay), encompassing from the Maungaharuru Range in the west to the coast and beyond to the Tangitū (sea) in the east, this includes the area of Waipātiki. Representatives from MTT are part of the project team for the Waipātiki Wastewater Long-Term Solution, however, this does not preclude their status as potentially affected parties under the RMA.

¹¹ LAWA, accessed March 2024, Waipātiki lagoon long-term data AND

HBRC, State of the Environment. 2018-2021, <https://www.hbrc.govt.nz/assets/Document-Library/Reports/SOE-3-Year-report/2018-2021/SOE-2018-2021-digital.pdf>.



Initial discussions¹² with representatives from MTT in discussions with HDC on earlier projects¹³, and in the scoping phase¹⁴ of this project brought forth important matters around local taonga and the importance of not facilitating further growth in the settlement. Further, the RMA planning framework that now applies in Waipātiki, (via the District Plan made Operative in Part in February 2020) is generally restrictive, with limited potential for 'as of right' subdivision and/or development and any significant new activities would likely require resource consent via a generally restrictive planning framework.

In the scoping phase of this project (and prior to Cyclone effects being realised) discussions with MTT around the problem statement and high level options noted the quality of the discharge to land prior to any migration towards the awa is of importance to them and discussions on performance and future quality standards are ongoing with MTT as both a project team member, Te Tiriti partner, and potentially affected party under the RMA. This is both in terms of the effects to the surrounding streams and any risks from the discharge to the drinking water supply in respect to tapu and noa.

The awa in Waipātiki, Kowhiro Stream (and its unnamed tributary), and Waipātiki Stream, are of significance to MTT and the potential effects of the activity on the awa need to be considered from both a cultural and regulatory perspective, waterways are therefore included in two sections of this assessment - in terms of regulatory requirements for water quality and in terms of the mauri of the awa. For example, while the NPSFM requires the activity to give effect to Te Mana o Te Wai in a prescribed way, partnership with mana whenua to understand what this means for Hapū of Maungaharuru to Tangitū is a critical part of this project, in addition to partnership work as a potentially affected party under the RMA.

These discussions also identified that there are at least three known archaeological sites near the campsite and irrigation field and agreement that the effects to these sites would be managed and mitigated via an archaeological authority and ongoing partnership.

A subsequent site visit in October 2023 to verify that first round of screening and have more detailed discussions about the potential options. The visit included walkovers of the community WWTP site, the irrigation area, the area around Kowhiro stream and the campground wastewater settling pond. Discussions on site and follow up communications¹⁵ around the existing infrastructure and performance, background information on the area from all parties, considerations around risk and carbon footprint of significant upgrades against the status quo and values around quality of discharge and environmental monitoring.

The inputs from MTT are further articulated in the values statement and input to inform the MCA.

¹² Discussions with MTT representatives have been in both the context of technical experts as part of the project team and as partnership between HDC and MTT on the project. These are recorded in either technical notes or as part of the consultation register for the project.

¹³ Variation to Consent No. DP050397L - Discharge from Waipātiki Wastewater Treatment Plant onto Land, September 2021, Application and Assessment of Environmental Effects and Renewal of Consent no. WP000084Ta - Groundwater Take for the Waipātiki Public Water Supply, February 2020, Resource Consent Application and Assessment of Environmental Effects.

¹⁴ Waipātiki Wastewater Long Term Solution - Consenting Strategy, March 2023, GEM Technical Memorandum.

¹⁵ Emails 18/10/23 and 26/10/23. Consultation register for Waipātiki WW LTS.



3.1.3 Parameters and Assumptions for the Consideration of Alternatives

In addition to the above, the following parameters and assumptions have informed the development of alternatives for assessment:

Parameters

- Campground Deed Agreement Requires that HDC "maintain an effective wastewater system for the Campground at all times. Hastings will connect the Campground to the Waipātiki sewerage scheme owned and operated by Hastings by 30 June 2018, unless Hastings and Regional Agree an alternate later date for such connection"¹⁶
- HDC currently provides a wastewater service to the Waipātiki community and would need to operate against their own District Plan objectives as well as meet the criteria of LGA s131(2) to cease to provide a service.
- Both the community WWTP and campground wastewater consents are due to expire and will need to meet a higher consenting threshold than that of the original applications (Campground Consent Expires May 2024; Municipal System Discharge Consent Expires May 2025).
- The permanent population at Waipātiki is small, however, there are significant fluctuations over the holiday and summer periods meaning the system for the community and campground will always have fluctuations in flow.

Assumptions

- HDC will continue to provide a wastewater service to the community on the basis of what is in the Long term plan (re-visited/tested in High Level Option 2 for completeness).
- HDC must provide a wastewater system for the campground and until a connection is provided or if no connection is to be provided, needs to assume responsibility for the discharge permit as a logical application of the deed of settlement agreement (to do anything else would require a legal decision).
- The purpose of any upgrades is to improve current treatment and accommodate the campground, not to provide for additional growth at Waipātiki beyond what is zoned for settlement already, by way of commitment via the drinking water take permit renewal application and mana whenua consultation to date.
- There is no ideal treatment solution or site location on the basis of the fluctuating population and numerous landscape constraints.

3.2 Identification and Assessment of Wastewater Management Options

This phase of the assessment of alternatives involved identifying the range of high level potential options available to HDC for wastewater management at Waipātiki.

As a first step, consideration was given to the list of options originally identified when HDC determined to provide a community wastewater system, as set out within the application for the existing resource consents and associated documentation¹⁷. This was for the purpose of understanding the range of wider options originally considered, and determining if any of those options needed to or should be revisited and/or could add value to the current project.

¹⁵ Deed of Nomination dated 12 October 2016, between Hastings District Council and Hawke's Bay Regional Council.

¹⁷ Waipatiki Sewage Upgrade Discharge to Land and Discharge to Air Resource Consent(s) Application, Glasson Potts Fowler, 2005 (Ref 8326HDC, received by HBRC 28 Sept 2005).

3.2.1 Screening of Options Considered in Original Application

The long list of options considered as part of the original Waipātiki wastewater project which led to the installation of the community system included the following:

- Option 1 - Land disposal via irrigation to Pan Pac Pine forest
- Option 2 - Discharge to soakage bed within HDC beach reserve area
- Option 3 - Discharge to the Waipātiki Stream via gravel seep/rock filter
- Option 4 - Rapid Infiltration into the beach foredune area
- Option 5 - Upgrade the existing on-site treatment and disposal system
- Option 6 - Drip irrigation disposal to HDC Bush Reserve
- Option 7 - Deep well injection disposal system
- Option 8 - Grey and Black Water Separation Disposal System
- Option 9 - On-lot interceptor tank, packed bed reactor, and drip irrigation disposal to forest system. (The adopted and installed option).

It is considered that the treatment and disposal alternative options assessed above can be excluded from any further assessment for the current project because all of them would be a significant 'step backwards' in terms of environmental effects, cultural effects and potential effects on hapū values, and would incur high capital costs associated with changing the system and a reduction in the level of service, with no foreseeable benefits to be accrued.

The 'fatal flaws' associated with options 1 - 8 above a summarised briefly below (with Option 9 being the existing system). Again, all options would incur high capital costs associated with significantly changing the existing system:

Table 3.1: Screening of Original Options for Treatment and Disposal

Option Considered in Original Consent for Community System	Description	2024 High Level Re-Consideration
Option 1	Land disposal via irrigation to Pan Pac Pine forest	Requirement to install new pump, rising main and oxidation ponds with no obvious suitable location for ponds available, no improvement to be gained in terms of treatment or discharge effects.
Option 2	Discharge to soakage bed within HDC beach reserve area	Use of reserve land unlikely to find favour with community, would bring disposal closer to drinking water source water and coastal and stream environment.
Option 3	Discharge to the Waipātiki stream via gravel seep/rock filter	Discharge to the stream would be culturally abhorrent and would not find favour with the community given improvements to water quality over the last 2-3 decades. Additionally, significant treatment upgrades would be required to treat wastewater to a standard that would "do no worse".



Option Considered in Original Consent for Community System	Description	2024 High Level Re-Consideration
Option 4	Upgrade the existing on-site treatment and disposal system	No longer an 'upgrade' option given that these systems have been removed - would require removal of existing interceptors and installation of new full systems at every individual property, would result in potentially significant water quality effects on the stream and near shore coastal waters, and would be a lowering of the level of service for the community in conjunction with a significant cost to individual properties.
Option 5	Rapid Infiltration into the beach foredune area	Cultural, socially and environmentally inappropriate with likely significant effects on near shore coastal waters. Additionally, significant treatment upgrades would be required to treat wastewater to a standard that would "do no worse".
Option 6	Drip irrigation disposal to HDC Bush Reserve	Use of reserve land unlikely to find favour with community, would bring disposal closer to drinking water source water and coastal and stream environment.
Option 7	Deep well injection disposal system	Potentially culturally abhorrent due to effects on groundwater, contrary to Te Mana o Te Wai and unlikely to find favour with the community. Mixture of wastewater with potable waters is not typically deemed acceptable and significant treatment upgrades would be required.
Option 8	Grey and Black Water Separation Disposal System	Requires re-installation of on-site systems plus electric, chemical or composting toilets or storage holding tanks that are regularly serviced. In addition to re-introducing potentially significant effects associated with a high concentration of on-site systems in this area, this option requires a very high level of input (training and maintenance) by users. It would be a lowering of the level of service for the community in conjunction with a significant cost to individual properties.

It is considered to be clear that there is no additional value to be gained from further consideration of the options assessed in the original application.

3.2.2 Options for Wastewater Management at Waipātiki

In order to refine the potential options for the long term solution at Waipātiki that should be considered in more detail, a list of high level options was developed as follows:

Table 3.2: Wastewater Management Options at Waipātiki

Option	Description
1. Status Quo	Apply for community system consent renewal on a like for like basis with no immediate or planned changes to the treatment plant or management regime; 'Do nothing' approach regarding the Campground.
2. Change Level of Service	Withdraw provision of municipal wastewater service at Waipātiki and withdraw from involvement with wastewater system at Campground.
3. 'Start Fresh'	Build New Wastewater Treatment Plant at a New Site - 'Golden' technical solution, move out of/further away from flood hazard area with a sub-option to change the discharge environment, take Campground wastewater via an entirely new system there.

Option	Description
4. Upgrade Existing Assets	Make 'best use of what we have' and augment with discharge environment mitigations and enhancement; provide a long term solution for the Campground within this option.

In order to assess these options, consideration was given to the key consenting matters, mana whenua feedback to date, and the criteria included in the MCA (although no detailed MCA was undertaken of these high level options at this stage of the project, but was undertaken later to confirm exclusion of options 1 and 2, as discussed subsequently). Additionally, a set of assumptions and parameters that reflect the key project values, drivers and purpose, outcomes and drivers were identified and confirmed in order to assist in identifying the preferred overall approach.

It should be noted that each of these options will involve a robust suite of conditions as part of the consent renewal and these will be a key factor in ensuring continued monitoring, effects management and reviews of the system over the lifetime of the consent.

The key issues/considerations and advantages and disadvantages of each of the options are summarised in the table below, with a discussion following.



Table 3.3: Advantages and Disadvantages of the Four Wastewater Management Options

Wastewater Management Option	Advantages	Disadvantages
1. Status Quo	<ul style="list-style-type: none"> Limited short-term cost. No change to operations. 	<ul style="list-style-type: none"> No improvement to performance and aligning consent with design and current standards. Significant reputational and relationship risk with community and mana whenua. Reputational, relationship and legal risk with HBRC. Non-compliances and associated costs.
2. Change Level of Service	<ul style="list-style-type: none"> Longer-term cost savings in not providing a service. 	<ul style="list-style-type: none"> Relationship and reputational damage with community and mana whenua. Regulatory risks in contradiction with District Plan. Environmental risks/removal of improvements from providing municipal service.
3. 'Start Fresh'	<ul style="list-style-type: none"> Enhanced performance. New treatment designed for purpose. Longer asset lifetime. 	<ul style="list-style-type: none"> Lack of suitable land and more sensitive environment in possible alternate locations. Significant costs. Operational complexity. Risks and costs associated with pump station infrastructure similar to those at present. Increased potential for infiltration to aquifer from limited/no confining layer in hills. Additional carbon cost and sustainability considerations. Continued issues with variable flow despite gold standard design.
4. Upgrade Existing Assets	<ul style="list-style-type: none"> Manage performance, environmental improvements and cost. Resolving campground legal and environmental risks as a priority. Investigations and workshops indicate system can be upgraded to address current issues (pending continued investigations and design). No significant change to operational requirements. Very cost effective. Not fixing problems that don't need fixing - no evidential basis for a big change. Allows for adaptation over time if needed. Accepting flood risk, taking into account overall risk and not over investing. 	<ul style="list-style-type: none"> Flood risk remains. Earthquake risk remains but may be managed in design considerations. Community WWTP Site remains near Waipātiki Stream and risk of overflows remain.

1. Status Quo

This approach would involve not making any changes to the existing treatment plant and/or discharge area and HDC not providing any solution for wastewater at the campground nor taking on any responsibility for the campground discharge (ie HBRC would continue to be the Consent Holder for that discharge permit). A renewal consent application for the community system discharge would still need to be lodged and this approach would mean the basis of that application would be a like for like basis for replacement of the existing consent.

Advantages associated with this approach include primarily that it would be the least financially costly in the immediate future for HDC as expenditure would be limited to consenting costs for the existing system. Making no changes to the existing system also has operational advantages in terms of not needing to change operational inputs as such.

Disadvantages of this approach are that it carries a significant reputational and legal risk because it is ignorant of the existing legal arrangement by which HDC agreed with HBRC to provide a connection for the campground wastewater to the community system, and to maintain the existing campground wastewater system in the meantime. Additionally, a 'like for like' application for the community system consent is likely to be problematic in the post-lodgement phase for several reasons. Firstly, the existing consent regime includes provision for the community WWTP and discharge field to be expanded to accommodate additional subdivision and development at Waipātiki. As discussed previously, for mana whenua, any agreement to infrastructure renewals would be on the basis that the service does not encourage or accommodate further residential subdivision and development at Waipātiki, hence a like for like renewal would not likely find favour with MTT. Additionally, a like for like renewal would likely only gain a short term resource consent from HBRC given the more stringent regime now in place regarding freshwater quality and effects. The current Waipātiki Beach Campground wastewater system would require upgrades regardless due to the need for consent renewal in this more stringent consenting framework, and as outlined in the technical memo in Appendix C, investigations into the Waipātiki beach campground wastewater system indicate a more immediate need for improvements. The treatment process requires upgrades to meet the expected primary and secondary treatment standards and engineer works are required for the oxidation pond for both continued use in the medium to long term and consent renewal. Further the emergency overflow in the current system beach being unlikely to be an appropriate option for the new consent. These factors mean that in the medium and longer term, any cost savings in the immediate future are likely to be nullified by additional costs incurred in the future which will only increase by delaying the key issue of providing a solution for the campground and ensuring that any proposal is able to be supported by mana whenua.

It is considered that the 'status quo' approach has significant shortcomings in terms of achieving the project purpose of developing and implementing a long term solution for wastewater management at Waipātiki.

2. Change Level of Service

This option would involve HDC ceasing to provide a wastewater service at Waipātiki. It would require to meet the requirements set out in s131(2) of the Local Government Act¹⁸ and that the community WWTP system be removed, which would by default require the reinstatement of the on-site systems that the community system replaced. HDC would also need to extract itself (via a legal process) from any wastewater management obligations at the Campground. Further, HDC have already installed a pipeline from the campground to the community WWTP (Figure 3.2) and this option would involve 'walking away' from that asset.

¹⁸ As there are less than 200 persons to whom the water service is delivered this meets 131(2)(a). There are other requirements set out in 131(2)(b-d) relating to public health and consultation that would be necessary for the service to legally cease.



The advantage of this option is that in the medium/longer term there would be cost savings for the Council by not providing a wastewater system at Waipātiki.

However, there would be significant costs in the immediate future associated with removing the community system and likely significant opposition from the community and mana whenua as removal of the system would be costly and a significant step backwards environmentally.

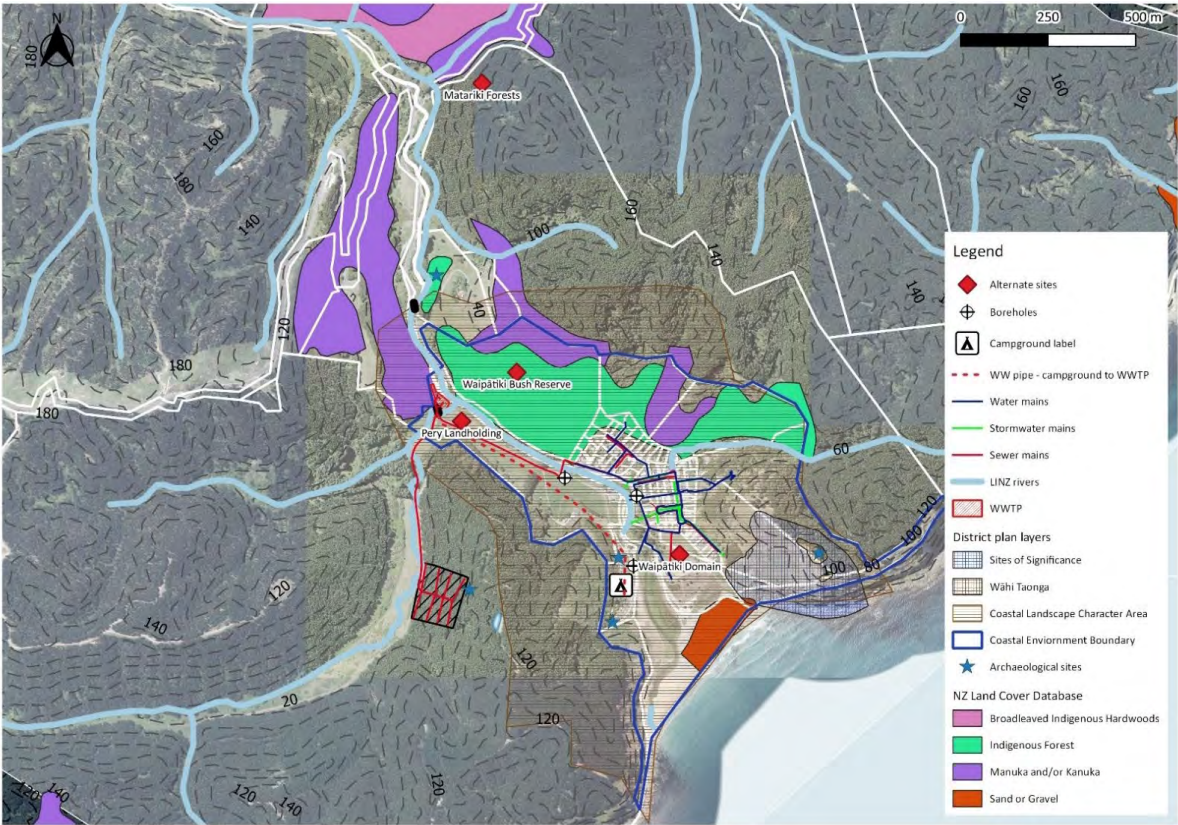


Figure 3.2: Site Plan Optioneering Process. Alternative Sites, Sensitive Sites and Topography Illustrated per the Legend



Currently, the area of Waipātiki that is developed is zoned accordingly (coastal settlement; Figure 3.2) in recognition of the existing residential development. One of the anticipated outcomes for this zone is that *'residential development is appropriately serviced, via with on-site or community based methods, and the integrated management of stormwater using low impact design is used where practicable'*. Whilst the District Plan doesn't set the level of those services as necessarily being a council provided network, it is considered that reversion back to on-lot services at this time would not be able to be justified as being 'appropriate'. Hence, withdrawing from the provision of a community wastewater system is considered to be contrary to HDC's own plans.

It is recognised, particularly within the context of the impacts of climate change and extreme weather events, that it may be appropriate to re-consider the zoning and level of service (for drinking water as well) for Waipātiki at some time in the future. However, there is currently, and within the context of this project, no basis to do so.

It is therefore considered that the disadvantages of this approach are significantly greater than the advantages. This conclusion takes into account anecdotal feedback from community residents regarding the observed improvement of water quality within the Waipātiki Stream and swim-ability at the beach since the community wastewater system was installed.

3. 'Start Fresh' - Build New Wastewater Treatment Plant at a New Site

This approach would involve building a new treatment plant to treat and discharge both the Waipātiki beach campground wastewater and the community wastewater at a new site, further away from the existing site such that the new site would be out of the existing River Hazard Zone (as delineated in the District Plan). This approach would require pumps/pumping stations at/near the Campground and near/within the residential area, and would involve the conveyance of either raw or primary treated wastewater from these areas to the new site, which would require property acquisition and the establishment of a new discharge regime. There are sub-options within this approach that could include removing the existing on-site interceptor tanks from the residential properties such that only raw wastewater is conveyed, or retaining these, and likewise either installing some form of primary treatment at the campground or not. There are potentially sub-options relating to the method of discharge although there is an assumption in considering this option that discharge must be to land, for the reasons discussed in the screening of the original options (ie discharge to water within this area, especially without significant, bespoke treatment, would be cultural abhorrent and environmentally unacceptable).

Advantages and Disadvantages of Alternative Site Locations

One of the key factors that has been considered by the Project Team to date is that the site of the existing wastewater treatment plant is very close to the stream and has geotechnical and flood risks associated with it. Hence, there is an existing risk that the treatment plant could be severely damaged in significant/extreme weather events. This specific matter was discussed with mana whenua on-site in terms of this existing failure risk as compared to the risks associated with overflows from pump stations and pipe leakage/breakage if a new system were to be installed further away from the flood hazard risk zone (Figure 3.1).

There is potential to reduce the effects of overflows/breakage associated with this option by conveying primary treated rather than raw sewerage by either utilising the existing system but moving the treatment plant to a new site, or building a new treatment plant at a new site that utilises the existing primary treatment within the Community and installing new/upgrading the Campground primary system.

However, there are significant limitations associated with locating a new or moving the existing treatment plant to a new site, Figure 3.2 shows the locations of the possible alternative sites and sensitive land uses. The topography at Waipātiki is such that there is limited available flat area for a

new site. It is noted here that no further consideration has been given to developing a new site in the flat areas closer to the settlement and the beach for several reasons. These include that this would move the treatment plant into the zoned flood hazard area (Figure 3.1), thereby potentially increasing the current risk of flooding effects on the plant; that this would likely move the treatment plant closer to both the community drinking water supply bore and the drinking water treatment plant, both of which are considered unacceptable from a drinking water source protection and safety perspective; and it would move the treatment plant closer to existing homes and the risk of real or perceived amenity effects would be significantly increased as compared to the existing situation. Additionally, there are numerous wahi taonga and culturally sensitive sites in the area closer to the beach and the settlement that could be adversely affected by relocating the treatment plant here.

Further, the clear directive from Pan Pac that any activity/arrangement that would take any of its land out of production forestry would not be considered means that the entirety of the Pan Pac land holding can be excluded from consideration for a new treatment plant site.

For these reasons, the only realistic options would be to develop a new site within the Perry landholding, to develop a new site within the privately held land on the northern side of the Waipātiki Stream and to the north of the Waipātiki Domain/Recreation Reserve, or to develop a new site within Matariki Forestry land (see Fig 3.2). Table 3.4 below shows the considerations for each of the possible alternative sites for a new plant and how each of these locations do not provide any significant change from the current site, or would present environmental risks to more sensitive areas than the current location.

Table 3.4: Alternative Site Assessment

Possible Alternative Site	Factors
Flat areas near beach and settlement (Waipātiki Domain)	<ul style="list-style-type: none"> Flat land proximal to settlement Significant flood risks Unacceptable risks to source water Culturally and environmentally inappropriate Adverse amenity effects
North of Waipātiki Stream (Waipātiki Bush reserve)	<ul style="list-style-type: none"> Sensitive sites Native species and sensitive ecosystem Flood risk and geotechnical risks are unchanged
Pan Pac land	<ul style="list-style-type: none"> Pan Pac do not have land that is available to purchase without affecting their production forestry area so there is availability for irrigation but not for construction of the community WWTP
Perrys	<ul style="list-style-type: none"> Land has no real improvement on current site (flood, geotechnical risks etc.) Part of the connection between Kowhiri and Waipātiki Streams which is being restored Private bore on site presents a risk of direct pathway to aquifer Sensitive ecosystems
Matariki Forests	<ul style="list-style-type: none"> Would still require infrastructure to convey wastewater to site. Including a pump station in similar location and risk of earthquake and flood as present site. Significant financial and carbon cost Less degraded ecosystem including native species Nearby streams to site not currently understood in terms of ecology and flood risk



Advantages and Disadvantages of New Treatment Plant

Advantages of this option include that it would enable HDC to locate its treatment plant outside of the Existing River Hazard Zone if moving to Matariki forestry (the plant is currently located outside but immediately adjacent to this Zone) in a location with more space. The River Hazard Zone mapped by HBRC is based on 100-year flood modelling without any allowance for climate change (Figure 3.1). This suggests that the fact that the community WWTP is outside, but adjacent to, the mapped flood hazard area does not mean that the site is not at risk of flooding.

One of the considerations for any upgrades to the existing plant needed in order to accommodate connection from the Waipātiki Beach Campground wastewater is that there is limited space within the existing site to add equipment. The existing site is also very close to the Waipātiki Stream and there are considered to be risks of lateral spread in an earthquake event, and it may be possible to locate a more geotechnically suitable site elsewhere.

During 2023, the advantages of this option were considered to include potential cost attractiveness and operational and maintenance benefits. For much of development of the long term solution for Waipātiki's wastewater, HDC was operating under the premise that the new water services entity would be taking over responsibility for three waters infrastructure. The likely scenario was that HDC would be applying for the wastewater renewal consent, but that the new entity would become the consent holder and be responsible for administering it.

In terms of cost, this meant that HDC ratepayers would likely not be funding a new treatment plant. Additionally, operations and maintenance considerations differed if three waters services and assets were being transferred to the new entity. One of the fundamental reasons for the reforms was to enable infrastructure replacement and renewals to occur in way that was less of a burden on the ratepayer, in part by enabling bulk purchase of equipment and materials and scales of economy particularly re access to funding. Further, if standardised/common systems (eg wastewater systems) were used in a region, there would likely be benefits in simplification of operations and maintenance.

However, from the monitoring data now available on the performance of the community WWTP and limitations of the Waipātiki Beach campground sewerage system, there is not a clear justification for the need of a new plant when the existing community WWTP is not having significant effects on the receiving environment and is below the required nutrient loading. Further, with the discharge in forestry land the nutrients are beneficial to the growth of the trees. An ongoing issue with the performance of the system is Inflow and Infiltration (I&I) from the primary tanks - eg, if a car is repeatedly parked on the tank this can affect the integrity of the manhole and allow water to infiltrate during rain. If a brand new treatment plant was built, unless it replaced the existing on-site primary treatment, these issues would continue regardless and limit the performance of the treatment plant.

Disadvantages of this option, when new entity take over seemed likely if not inevitable, were primarily concerns around uncertainty as to how the system would be managed and the ability for mana whenua, and the community if desired, to be involved in management and particularly monitoring of the system and positive environmental outcomes. These disadvantages are not unique to this option, but rather were particular considerations for entity takeover. The plan was to manage these disadvantages/risk via a robust set of conditions being proposed upon submittal of the application, with focus on mātauranga māori being incorporated into the conditions suite and any adaptive management measures, mana whenua undertaking monitoring activities and using this as an opportunity to engage rangatahi in both water services and environmental enhancement work, and also including requirements for inputs from the community if desired such as the sourcing of plants for discharge areas from the local nursery.

With the repeal of the Water Services Entities Act 2022 and associated legislation in early 2024, the consideration of advantages/disadvantages of the wastewater management approaches have changed, primarily with regard to the cost implications. It now needs to be assumed that any new

treatment plant, or different option taken, will need to be funded by ratepayers and the funding / financial arrangements of a larger entity intended to make these systems more affordable will not be available in the near future, noting that this may again change in mid 2024. The 'start fresh' option has the highest capital expenditure requirements, and thus highest potential burden to ratepayers, because it would require removal/remediation of the existing system, installation of new equipment at the Waipātiki Beach Campground, and purchase of land, along with purchase and installation of pump stations and a longer pipeline to convey wastewater to the new site. It is noted that there has been some indication from a forestry owner/operator to the project team that there may be land able to be made available to HDC for wastewater treatment and disposal purposes to the north of the Waipātiki settlement near the Waipātiki Scenic Reserve. Hence, outright land purchase may not be necessary but it is assumed that some costs would be incurred regardless in order to secure legal arrangements for use and access.

The additional assumption to be made, taking into account the repeal of the water services entities legislation, is that HDC will have on-going responsibility for the operation of the wastewater system and logistical considerations therefore remain similar to the current considerations regarding, for example, distance to site from HDC offices. In terms of the potential disadvantages discussed above relating to risk/uncertainty for mana whenua involvement and community inputs, the measures identified to mitigate these risks, namely a robust conditions suite, are considered to be 'best for project' irrespective of the wastewater management approach taken, and hence will form part of the application for resource consent irrespective of which options are chosen.

Disadvantages of this option also include several potentially significant environmental matters/effects and risks. The pumpstations required for this option present a risk of overflow and malfunction, which could result in the discharge of raw sewage (if no primary treatment is to occur prior to conveyance) to the environment, in close proximity to the Waipātiki Stream. There is a similar risk associated with a failure in the pipeline, particularly from a seismic or severe weather event. It is acknowledged that there is some risk in this regard within the existing system, in terms of the potential for the pump station or rising mains to fail, noting that there is primary treatment in the existing system and a longer pipe line and more pump stations would increase that risk.

The indicative preference expressed from MTT's expert in combination with considering the potential significant adverse effects of a new site near the ecologically sensitive area was to accept the current level of flooding risk rather than create new potentially significant ecological, and associated cultural risk associated with developing a new site up catchment and conveying wastewater over a significantly longer distance. The geology of Waipātiki is such that the confining layer over the source aquifer for the drinking water supply is primarily present in the low-lying areas and thins or is not present in the hills. By moving treatment and irrigation uphill there is a potential risk of discharging into an area that has hydraulic connectivity with the aquifer.

It is considered that the advantages of the 'start fresh' approach including a larger site with less geotechnical and flood hazard associated with it and marginal treatment quality improvements, do not, at this time and under current circumstances and funding arrangements, cannot justify the costs associated with it.

4. Upgrade Existing Assets

The monitoring programme and specific investigations in 2022, 2023 and early 2024 have confirmed that the existing community WWTP is generally operating well and does not carry significant risk of adverse environmental effects in terms of treatment and discharge. Rather, the Waipātiki Beach Campground wastewater system including a likely failing primary tank and a non-engineering designed pond with variable treatment effectiveness, presents the most significant environmental risk relating to wastewater at Waipātiki. In this option, the system at the campground would be replaced with a new primary and secondary treatment and this wastewater would be conveyed through the existing pipeline to the community WWTP for discharge on the Pan Pac community discharge area. The existing



campground discharge area would no longer be required and environmental improvements of this coastal area would be realised from the cease of discharge.

This option is therefore a risk management based one, and also focuses on environmental enhancement opportunities associated with the existing discharge regime.

Advantages and Disadvantages

The upgrades to the Waipātiki Beach campground wastewater system are required regardless of the community WWTP option to address the current performance issues of the ageing infrastructure and necessary engineering works to the settling pond (Appendix C). The upgrades to the community WWTP in this option are minimal and could be accommodated within the existing footprint of the site. This allows more space and budget for resilience upgrades (tank storage and/or generator) and environmental monitoring and improvements (riparian planting around the streams). Riparian planting will not only minimise any residual effects from the discharge on the streams, but will also provide some benefits in the event of overflows by providing an additional buffer between the discharge area and sensitive environment.

Advantages of this option also include initial primary treatment close to source such that conveyance risks are minimised, and makes use of the existing system. It is considered that this is the most cost effective of the four options because it targets expenditure at the aspect of the issue/problem that carries the highest risk, and because it makes best use of existing infrastructure including the pipe that was installed from the Waipātiki Beach campground to the community WWTP in 2021.

It is noted that this option does not exclude a new treatment plant being put in in the future if the existing one is subject to full failure as a result of a severe weather event or earthquake and in this sense, Option 3 'start fresh' can remain 'on the table' if future circumstances warrant its reconsideration.

The main disadvantages associated with this option are accepting the flood and geotechnical risks associated with the current community WWTP location. From Figure 3.2, it is clear there is no 'ideal' site for the community WWTP and discharge area, however, their current locations are in the best location at present to not impact the more significant and sensitive areas north of the river or uphill. Further they are in an area that is away from the community (for aesthetic and amenity values) and is a currently degraded ecosystem, therefore this option provides a potential for improvement to the receiving environment by the planting projects and environmental enhancements. The planting will provide some resilience in weather events by limiting the rate of surface water run-off in any extreme circumstances (significant rainfall and ponding) and the residual risks will need to be accepted or mitigated via minor design works (storage for effluent, raising base height of infrastructure etc.).

It is considered that the disadvantages of this option are outweighed by the benefits, and that it provides a cost effective pathway for achieving the sought project outcomes.

3.3 Summary of Preferred Wastewater Management Option

The status quo is considered inappropriate in terms of environmental risks from the failing Waipātiki Beach campground wastewater system and legal and enforcement risks. The option to change the level of service does not align with HDC's objectives and policies and would require investment to remove the relatively new system (~15 years) which would cause potential risks in relationship and reputation with the local community. This option would also not support the cultural values set out by MTT nor the SWRMP for Hastings community water supply.

With the changes to the Water Services Act, it can no longer be assumed that there is entity level funding available for any upgrades and the monitoring data to date shows no evidential basis for the construction of a new plant. While the community WWTP needs some improvements to manage

effects and the Waipātiki Beach campground a new wastewater system, the scale of cost for a new system is far greater than the alternatives. Further, the alternative locations would be a greater risk of environmental effects and to more sensitive ecosystems than the current location. In addition, the current location provides an opportunity for enhancement of the previously degraded environment, supporting the community and mana whenua work in this area.

Option 4, to upgrade existing assets, provides an efficient use of resources as following the optioneering process there is no real evidential basis for significant changes to the existing community WWTP infrastructure and that these minor upgrades will improve the treatment performance and resilience and resolve the current issue of the risks associated with the Waipātiki Beach campground wastewater system, the pond overflowing to the community WWTP discharge area and the potential issues associated with the faulty primary system. Any residual risks will be mitigated by installing UV treatment and further filtration for suspended solids. It would also allow for adaptation over time if during a future review it was deemed more appropriate to build new or cease wastewater provision, but makes the best use of the existing assets under current circumstances to provide better outcomes for the environment and community.

The sub options for Option 4 are set out in 3.3.1 and the MCA process and consultation work refined these to the current preferred option detailed in Section 4.

3.3.1 Sub Options for MCA Assessment

The sub-options of the preferred wastewater management option of upgrading the existing assets were identified in order to begin consultation with stakeholders and initiate the optioneering process. These sub-options are:

- Connect Waipātiki Beach campground wastewater to community WWTP - primary and/or secondary treatment at campground connected to WWTP via existing pipeline either before or after treatment.
- Upgrade Waipātiki Beach campground wastewater treatment system and upgrade community WWTP system independent of each other and continue to run as two completely separate systems with separate discharge points.
- Upgrade the community WWTP and Waipātiki Beach campground wastewater systems separately and discharge to the same area. This option envisages a separate pipeline to the existing discharge field from the campground system.

These options were assessed through a series of MCA workshops (detailed below) and the discussions with stakeholders as set out above.

3.3.2 Discussions with Stakeholders

Communications with Stakeholders occurred on several occasions throughout 2023. These included communications and a meeting with the Waipātiki Community Association (WCA) on 8 May 2023 to broadly discuss the project and provide an opportunity for the WCA to highlight any significant concerns with the existing system and/or aspirations for the LTS. The primary feedback from this session related to the desire of the community to feel that they understand how the community WWTP system works and what to do in an emergency such as the cyclone that had recently occurred. Discussion was had regarding methods available to ensure homeowners understand their responsibilities for maintaining the on-site elements of the system which can assist in managing I and I. Discussions were also had around understanding the volumes provided for under the existing consent, and ensuring that HDC is aware of the stream enhancement project underway with HBRC and the improvements that have occurred in stream quality as a result of the existing system. The WCA also reminded HDC of the significant investment that ratepayers in Waipātiki made in paying for the existing system. Discussion was also had into consideration of resilience measures such as a back up



power supply at the plant. Overall, there were no significant concerns about the existing system and its performance¹⁹.

Phone and email correspondence²⁰ with Pan Pac occurred in mid 2023 to introduce the LTS project to Pan Pac and understand any concerns or key issues they may want addressed or want the project team to be aware of. The key feedback from this consultation, which was re-iterated at the Site Visit (see below) was that Pan Pac would not be agreeable to any activities that would reduce its available land for productive forestry operations. This is within the context not only of post-cyclone pressures on operations and funding (Pan Pac's main operating site at Whirinaki was impacted severely in the event), but also of pressures on the forestry industry as a whole due to the implications of forestry for erosion and land stability and the role that slash played in flooding and damage during and after the cyclone.

Email correspondence²¹ was also had in June 2023 with HBRC regarding the Kowhiro Stream restoration project aimed at protecting and enhancing banded kokopu habitat. At the site visit, discussed below, HBRC officers explained the project and the extent of the area being protected. It was generally agreed that the existing system does not provide a significant threat to the project and also that options to enhance the discharge environment would be significantly beneficial for and accord with the intentions of the project.

A site visit with a representative of HDC, GEM, Pan Pac, HBRC Officers, landowners and the Waipātiki Beach campground managers occurred on 26 June 2023. The three sub-options evaluated in the MCA (see section 3.6 below) were presented to the parties in order to understand if there were any major concerns or issues that had not been considered or needed to be addressed.

Key points as outlined above were re-iterated by all parties, noting that the campground managers also queried the works/inputs needed by them in servicing and maintaining the campground system. Overall, the feedback was that any of the three sub-options would potentially be acceptable, provided all relevant matters as raised were addressed satisfactorily.

3.4 MCA Workshops

MCA workshops were undertaken on several dates as follows:

18 August 2023

Project Team members in attendance: James Taylor, Louise Hawthorne, Emily Limage, Grey Wilson.

13 September 2023

Project Team members in attendance: James Taylor, Louise Hawthorne, Emily Limage, Grey Wilson.

28 September 2023

Project Team members in attendance: Dave McKenzie, Cam Ormsby, James Taylor, Louise Hawthorne, Emily Limage, Grey Wilson.

3.5 Additional Funding and Local Government Context Assessment

In order to inform the optioneering process in terms of the current funding environment, and also assist HDC with inputs for this project into its Long Term Plan, a funding considerations session was

¹⁹ Meeting Notes - HDC, Waipātiki Community Association, GEM - 23 May 2023 GEM file 27548/Project Work/Consultation.

²⁰ Email Grey Wilson-Reece O'Leary 07 June 2023 GEM file 27548/Project Work/Consultation.

²¹ Email Grey Wilson-Daniel Fake, Thomas Petrie 13 June 2023 GEM file 27548/Project Work/Consultation.



held with project team members and HDC's Chief Financial Officer and HDC's Strategy Manager on 21 December 2023.

High level costings that had been provided to HDC by the project team were discussed/explained, along with discussions around the potential for staging of capital expenditure for upgrades, and cost and reputational implications associated with resource consenting matters. Also discussed was the need for the Project Team to consider and assist HDC with discussions with HBRC around funding arrangements for the wastewater solution for the Waipātiki Beach campground. It was emphasised to the project team that funding is under severe pressure due to the cyclone, and that opportunities for cost effectiveness and spreading of costs over time need to be afforded due weight in the optioneering process.

3.6 Identification of Preferred Option using MCA

Round 1 - Confirming the Exclusion of Options 1 and 2

A qualitative consideration of the four options for wastewater management at Waipātiki leads to the conclusion that Options 1 and 2, being a continuation of the status quo/do nothing or to change the level of wastewater service for the Waipātiki community can be excluded. It is considered that the 'Start Fresh' option of Option 3, namely to move the treatment plant to a different location and either reconfigure the existing plant or build a new one may be a valid option in the longer term depending primarily on future severe weather events and plant failure and/or significant changes to funding availability and the wastewater management regime. However, it is considered that Option 4 to make best use of existing infrastructure is the preferred option under current circumstances and a valid and robust option for re-consenting.

To validate the exclusion of Options 1 and 2, and understand the comparative advantages and disadvantages of Options 3 and 4, the MCA framework was applied to these management options as set out in Table 3.5 below. It is clear from that exercise that Option 4 is the preferred option.

Table 3.5: MCA Scoring for Wastewater Management Options 1-4

Assessment Category	Option 1: Status Quo	Option 2: Change LOS	Option 3: Start Fresh	Option 4 : Upgrade Existing Assets
Effects on MTT Hapū Values	1	1	4	4
Consenting pathway considerations	1	1	4	5
Engineering feasibility and constructability	3	3	4	4
Property considerations	3	2	2	5
Asset management considerations	4	5	3	3
Operational and maintenance requirements - long term	5	5	3	3
Cost	2	4	1	5
Stakeholder Values and Inputs	2	1	3	5
Total Score (unweighted)	21	22	24	34



Round 2 - Identify Preferred Sub-Option

The second step of the MCA exercise was to apply the framework and scoring to the sub-options available under Option 4, as set out in Table 3.6 below.

Table 3.6: MCA scoring for wastewater management sub-options 4a, 4b and 4c

Assessment Category	Option 4A Combine treatment and discharge for the Campground into the Community System	Option 4B Operate and Maintain Separate Systems	Option 4C Operate and maintain separate Treatment systems with a combined discharge area
Effects on MTT Hapū Values	4	2	3
Consenting pathway considerations	4	3	3
Engineering feasibility and constructability	4	2	2
Property considerations	5	2	2
Asset management considerations	5	2	2
Operational and maintenance requirements - long term	4	2	3
Cost	4	2	2
Stakeholder Values and Inputs	5	3	3
Total Score (unweighted)	35	18	20

4 SUMMARY OF MCA OUTCOME

- **Option 4a:** Connect Waipātiki Beach campground wastewater to community WWTP - primary and/or secondary treatment at campground connected to WWTP via existing pipeline either before or after treatment.
- **Option 4b:** Upgrade Waipātiki Beach campground wastewater treatment system and upgrade community WWTP system independent of each other and continue to run as two completely separate systems with separate discharge points.
- **Option 4c:** Upgrade the community WWTP and Waipātiki Beach campground wastewater systems separately and discharge to the same area. This option envisages a separate pipeline to the existing discharge field from the campground system.

Option 4B, being to operate and maintain separate community and campground systems scored the lowest in the MCA exercise. This option would require essentially duplication of management regimes and associated costs, and likely require duplication of infrastructure costs (conveyance and discharge). There is currently no legal arrangement for the Waipātiki Beach campground wastewater pond (see Appendix C memo for more detail) and discharge field (located between the campground and pond, Appendix B) and hence legal rights would need to be secured. Indications from MTT during this project have always been that one system, or at least one discharge, would be preferable to two such that resources for engagement and monitoring can be focused on one area. Similarly, monitoring of two systems by HDC and HBRC or solely HDC is not ideal from an operational perspective, especially when there is little other benefit to be gained from running two separate systems.

Option 4C scored marginally higher than 4B, and has similar disadvantages to Option 4B in terms of practicality and appropriateness from a hapū values perspective. This option would still create a duplication of investment in terms of needing to install a pipeline from the Waipātiki Beach campground to the discharge area. Options 4B and 4C have more onerous consenting implications associated with them because there would be a need to obtain multiple/more complex consents than option 4A.

Option 4A scored significantly higher than the other two sub-options. It achieves the 'one consent' preference of MTT, provides a clear and non-problematic consenting pathway, minimises duplication of investment and of monitoring and operational requirements and has limited implications for property considerations.

5 DISCUSSION OF THE PREFERRED OPTION

This approach would include upgrading the Waipātiki Beach campground wastewater system to primary and secondary treatment on-site that would be piped via the existing connection between the Waipātiki Beach campground wastewater and community WWTP and join the treated effluent tank, see Figure 5.1 below. The community WWTP would require expansion to the irrigation field to accommodate the total volume of discharge and this is subject to design work for the new campground wastewater system. A UV treatment system and TSS filtration would be connected post-treatment and prior to the WTP backwash joining the discharge flow. This would improve performance of the equipment, limit blockages at the irrigation field, provide final treatment for bacteria and reduce the concentrations in the discharge by removing the solid fraction via the filtration. This option would also include improvements to the discharge environment including extensive plantings. This and other operational and maintenance factors to ensure the system performs as anticipated and manage any changes will be managed through the conditions suite and operation and maintenance manuals for the system, including information for homeowners on how best to manage their on-site tanks.



This option is preferred at present, and additional technical work can be undertaken to confirm feasibility and validate the assumptions made in the alternatives assessment. Further, these investigations will inform a more detailed budget and proposal for consideration of Council and stakeholders in order for the option to be confirmed. These include:

- Confirm treatment system for Waipātiki Beach campground (treatment quality and footprint area)
- Confirm holding tanks size/number and any additional resilience upgrades eg back up power supply
- Confirm land area needed for effluent discharge field
- Indicative design for discharge field improvements.

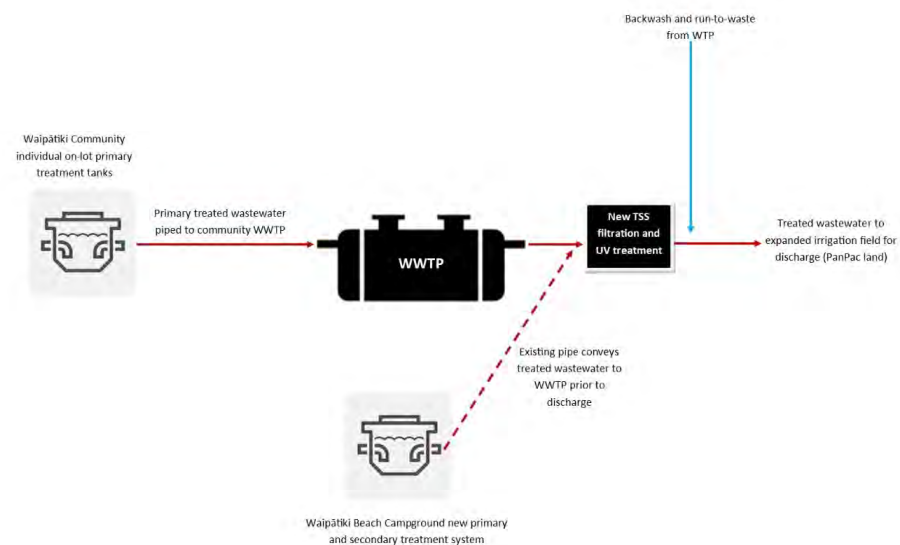


Figure 5.1: Updated Overview Diagram (from Figure 1.1) of the Preferred Option for the Waipātiki Community WWTP and Waipātiki Beach Campground wastewater

Appendix A

MAUNGAHARURU-TANGITŪ HAPŪ VALUES PROTECTION PRINCIPLES AND MCA CRITERIA

MTT Hapū Values - Protection Principles	What can be recommended by MTT directly relating to this Waipātiki Wastewater MCA (Multicriteria Assessment)?
Protection of wāhi tapu, significant places, traditional materials and resources, flora and fauna, water and the wider environment of the Waipātiki rohe/area.	Seek the best possible outcome for ecosystems and in particular mahinga kai. Effects of discharge effluent quality on surface water quality in the Kowhiro and Waipātiki Streams is of critical importance. Including factoring in the day to day operation, wastewater loading, and discharge as well as one off high impact discharges due to system failures (i.e. sewerage reticulation breakage).
Recognition of MTT Hapū mana, kaitiakitanga, tikanga and kawa over and within the Waipātiki rohe/area.	Physical site works should have as small an impact on existing indigenous ecosystems as practicably possible including upon the Waipātiki Scenic Reserve, the Kowhiro and Waipātiki Streams and the fauna/flora that depend on these environments and their respective interconnectedness with nearby sites.
Respect for the MTT Hapū tikanga and kaitiakitanga within the Waipātiki rohe/area.	Seek options with the lowest possible carbon emissions, both in the setup/installation and in the full life cycle cost of operation of the community WWTP.
Respect for and recognition of the relationship of the MTT Hapū with the wāhi tapu and significant places within the Waipātiki rohe/area.	Seek a discharge effluent quality that doesn't adversely diminishing the mauri of the receiving environment.
Recognition of the MTT Hapū interest in actively protecting indigenous species within the Waipātiki rohe/area	Need to provide consideration of the protection and conservation of wahi taonga sites, specifically being former Pā sites of tipuna/ancestors occupation. This includes physical works occurring to the discharge field.
Accurate portrayal of the association and kaitiakitanga relationship of MTT hapū within the Waipātiki rohe/area.	Adverse effects on the receiving environment in terms of degradation of groundwater and surface water quality should be minimised as much as practicably possible by ensuring wastewater is treated to a desired standard.
Encouragement of recognition and respect for MTT hapū association within the Waipātiki rohe/area.	Mahinga kai species including tuna (eels), kuku (freshwater mussels), and koura (freshwater crayfish) are protected in the Kowhiro and Waipātiki Streams.
Our Takiwā becomes healthy and resilient through collective efforts towards recovery.	The selected option considers the wider effects on mauri, and where effects are identified that diminish mauri, efforts are made to enhance mauri on an annual basis via project based physical enhancement works. Examples of initiatives to enhance mauri may include - increasing riparian habitat and indigenous plantings in the Kowhiro and Waipātiki stream corridor. Protection and enhancement of whitebait spawning areas and habitat is undertaken.
Collaborate with partners to develop environmental restoration programmes and strategies to mitigate and adapt to climate change informed by mātauranga ā-Hapū, science and planning.	Participation of MTT hapū in the enhancement of ecosystems, and monitoring of mahinga kai in the Kowhiro and Waipātiki Streams.
	Active partnership with HDC in the delivery of Council services. Treated effluent discharge must have no discernible impact or effect on nearby communities including drinking water supplies. This includes any risks from enteroviruses (i.e. Norovirus), and Nitrates. Where an effect is possible then consideration is given to enhanced treatment to account for and manage these effects.

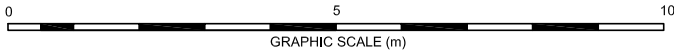
Appendix B

PLANS AND DRAWINGS

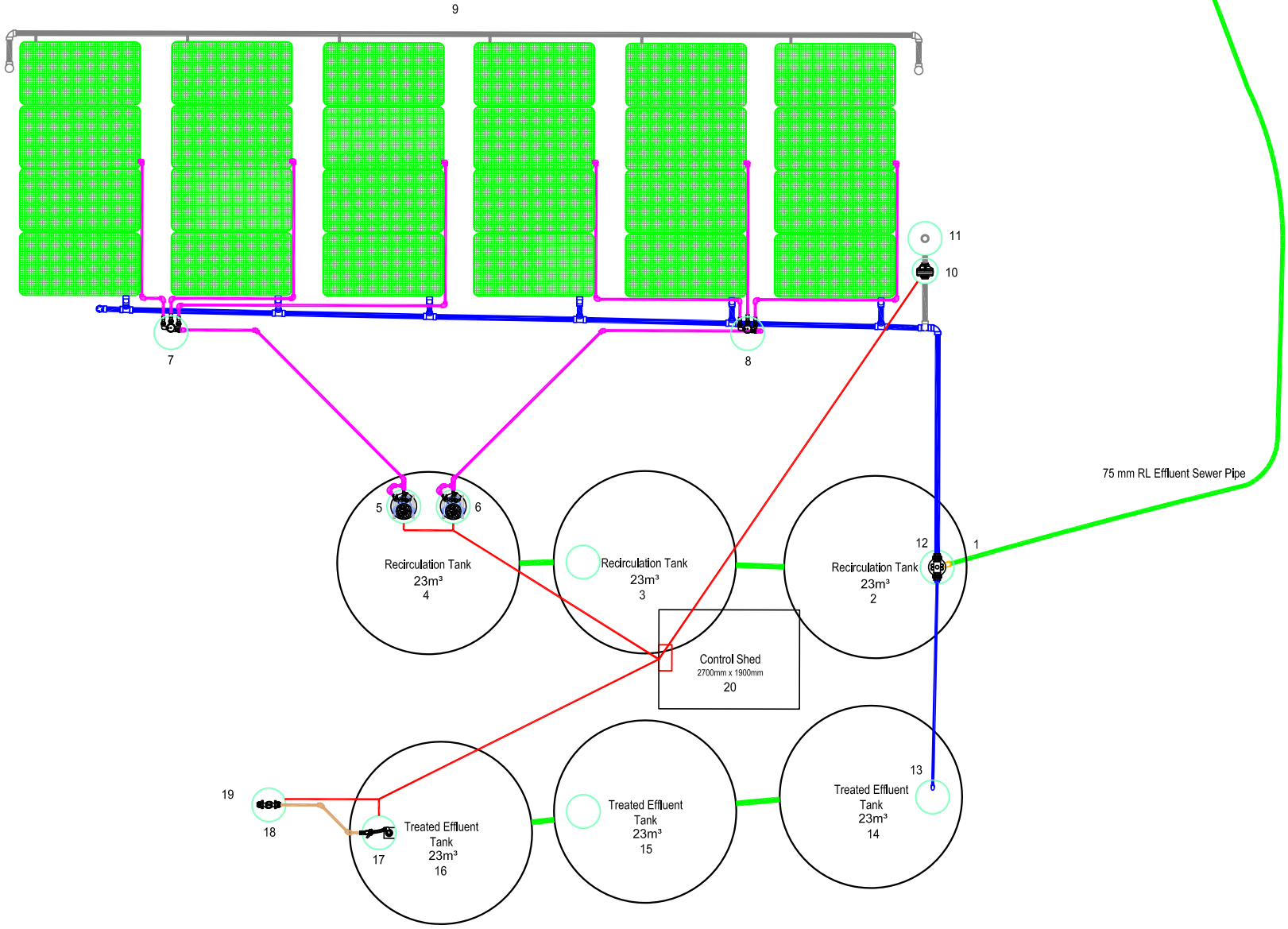
KEY


- 1 ProSTEP Effluent Sewer inlet to treatment plant
- 2 Recirculation Tank 1 (23 m³)
- 3 Recirculation Tank 2 (23 m³)
- 4 Recirculation Tank 3 (23 m³)
- 5 Duplex screened pump vault (PVU84-36) No.1
- 6 Duplex screened pump vault (PVU84-36) No.2
- 7 Three sector sequencing valve (V6403A) No.1
- 8 Three sector sequencing valve (V6403A) No.2
- 9 AX600 rtPBR (6 x Advantex pods)
- 10 Ventilation fan
- 11 Carbon filter
- 12 Redculating splitter valve (RSV4U)
- 13 Treated effluent sampling point
- 14 Treated effluent tank 1 (23 m³)
- 15 Treated effluent tank 2 (23 m³)
- 16 Treated effluent tank 3 (23 m³)
- 17 Discharge pump (P501052)
- 18 Discharge pulse water meter
- 19 To disposal
- 20 Control shed

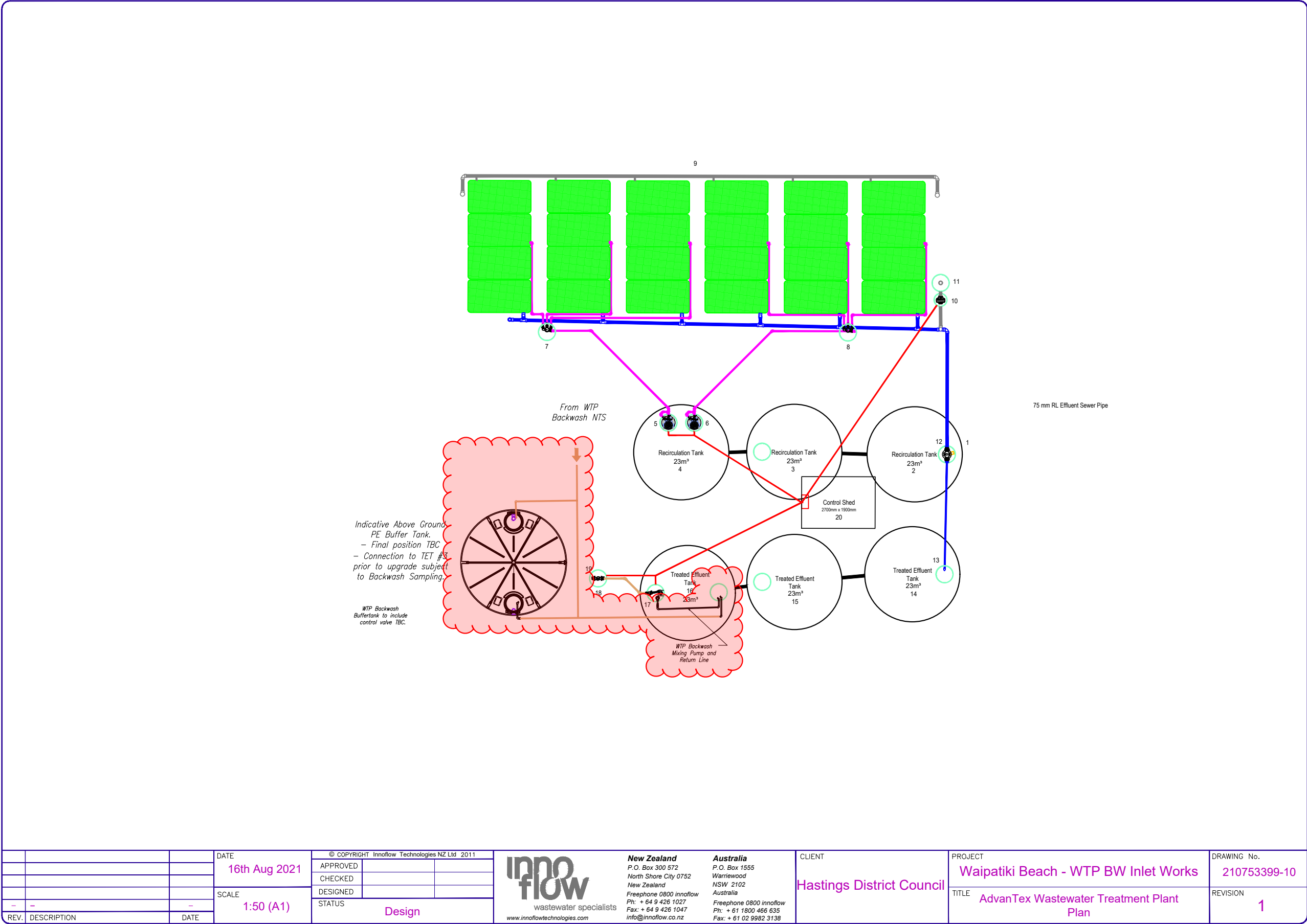
- Legend:
- Screened Wastewater (75 mm MDPE RL)
 - Underdrain Collection (100 mm DWV)
 - Pod Dosing (50 mm PVC Pressure)
 - Pod Ventilation (100 mm DWV)
 - Discharge (50 mm Pressure)
 - Tank Inter-connection (450mm from Base)
 - Tank Inter-connection (High Level under soffit)
 - Electrical (32 - 50 mm conduit)

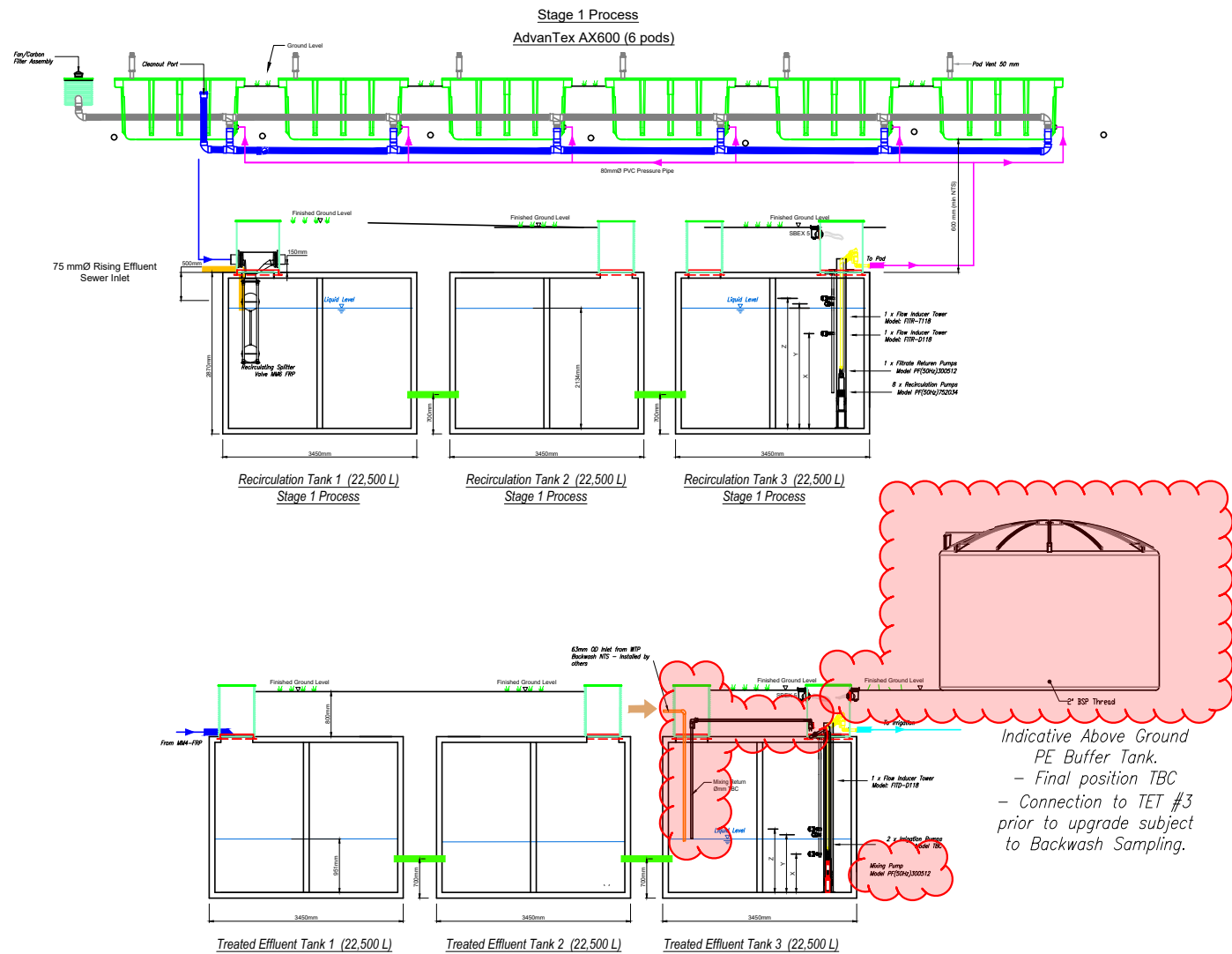


GRAPHIC SCALE (m)



INNOFLOW TECHNOLOGIES LTD INNOVATIVE WASTEWATER MANAGEMENT SOLUTIONS P.O. Box 300 572 Albany Auckland Ph: (09) 426 1027 Fax: (09) 426 1047 innoflow@xtra.co.nz	Designed by BH	Checked by JB	Approved by - date 04.07.06	Scale 1:50 - A1	Ref. 0409535-5 R1
	 INNOFLOW TECHNOLOGIES LTD			Waipatiki Beach	
				Advantex Wastewater Treatment Plant Asbuilt	






		DATE	© COPYRIGHT InnoFlow Technologies NZ Ltd 2011		 www.innoflowtechnologies.com	New Zealand P.O. Box 300 572 North Shore City 0752 New Zealand Freephone 0800 innoFlow Ph: + 64 9 426 1027 Fax: + 64 9 426 1047 info@innoflow.co.nz	Australia P.O. Box 1555 Warriewood NSW 2102 Australia Freephone 0800 innoFlow Ph: + 61 1800 466 635 Fax: + 61 02 9982 3138	CLIENT Hastings District Council	PROJECT	DRAWING No.
		16th Aug 2021	APPROVED						Waipatiki Beach WTP BW Inlet Works	210753399-11
			CHECKED							
			DESIGNED							
		SCALE	STATUS		Design			TITLE	REVISION	
		1:50 (A1)							AdvanTex Wastewater Treatment Plant Cross Section	1
REV.	DESCRIPTION	DATE								

Waipatiki Pipeline RFP
Site Plan



 Development Partners LTD	CLIENT HDC	PROJECT Waipatiki SCWT	PROJECT NO. DP14	ISSUE 22.11.21	DRAWN BY JT	DESCRIPTION Site Plan
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Waipatiki Pipeline RFP
Holiday Park Riser



- 90OD PE100 From Campground
- 63OD PE100 From WTP



Development
Partners LTD

DRAWN BY JT	PROJECT NO. DP14	ISSUE 22.11.21 RE-ISSUE n/a	CLIENT HDC
DESCRIPTION Holiday Park Riser			<div>C</div> <div>01</div>

Waipatiki Pipeline RFP
WTP Riser



- 900D PE100 From Campground
- 630D PE100 From WTP

Development Partners LTD

DRAWN BY
JT

DESCRIPTION
WTP Riser

PROJECT NO.
DP14

PROJECT
Waipatiki SCWT

ISSUE
22.11.21

RE-ISSUE
n/a

CLIENT
HDC

C

02

Waipatiki Pipeline RFP
WWTP Risers



- 900D PE100 From Campground
- 630D PE100 From WTP

Development Partners LTD

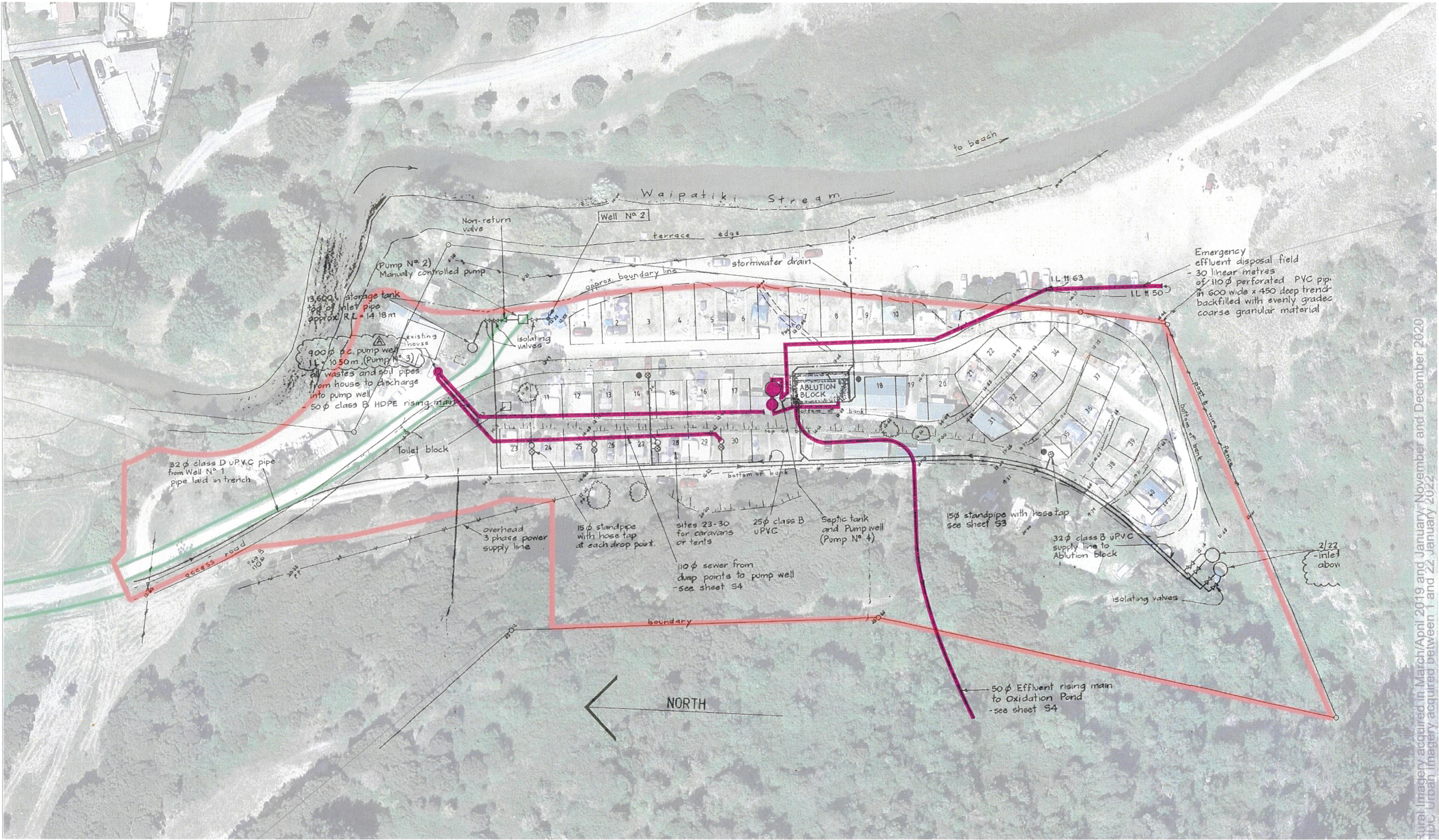
DRAWN BY JT	DESCRIPTION WWTP Risers	PROJECT NO. DP14	ISSUE 22.11.21	CLIENT HDC
		PROJECT Waipatiki SCWT	RE-ISSUE n/a	
C				
03				

Waipatiki Pipeline RFP
WWTP Risers



Development
Partners LTD

CLIENT	HDC
ISSUE	22.11.21 RE-ISSUE n/a
PROJECT NO.	DP14
PROJECT	Waipatiki SCWT
DRAWN BY	JT
DESCRIPTION	WWTP Risers
	C
	04



	CLIENT	PROJECT	PROJECT NO.	ISSUE	DRAWN BY	DESCRIPTION	A
	HDC	Waipātiki WWTP		15.3.2024	JT	Campground Consent Drawings	

Appendix C

TECHNICAL MEMO ON CAMPGROUND INVESTIGATIONS AND RESULTS

TECHNICAL MEMORANDUM

WAIPĀTIKI BEACH WASTEWATER LONG TERM SOLUTION PROJECT - CAMPGROUND WASTEWATER SYSTEM INVESTIGATIONS SUMMARY

To: Hastings District Council

From: Emily Limage (Good Earth Matters Consulting Limited)

Date: 21 April 2024

KEY POINTS

- The existing Waipātiki campground system utilises a non-engineered oxidation pond. If the pond were to be kept in use, assessments indicate it would require stabilising and lining works.
- The oxidation pond is located within located within Pan Pac forestry land, with no known easement or other formal legal property arrangement.
- Secondary treatment of the wastewater is required by the existing resource consent (discharge permit) for the campground wastewater.

Results from the Waipātiki beach campground wastewater sampling at various points across the system indicate that the wastewater does not meet typical concentrations for primary or secondary treated wastewater.

INTRODUCTION

To understand the feasibility of options for the Waipātiki Community Wastewater Long Term solution, various assessments of the campground system were completed and any existing monitoring data for the influent or effluent quality has been collated and assessed in the context of loading to the WWTP and discharge field if the systems were to be combined.

This memo summarises information from the following main sources:

- HBRC Compliance Monitoring Report, 10 June 2020;
- Consent DP130307L and associated drawings;
- Stantec, April 2021, Waipātiki Wastewater Treatment Review;
- Sampling Plan, 13 December 2022, GHD Technical Memorandum and Design Basis and High Level Augmentation Concept, February 2023, GHD Technical Memorandum;
- Results from Sampling in above GHD memo provided by HDC as Hills laboratory sheets and excel spreadsheets;
- Results from compliance sample 24 November 2021 by WaterTesting Hawkes Bay Ltd on behalf of HBRC; and
- Tonkin + Taylor email dated 1 March 2023 - visual inspection of wastewater detention dam following Cyclone Gabrielle.

SUMMARY OF UNDERSTANDING OF CURRENT SYSTEM

The Waipātiki Beach Campground wastewater system was designed and initially consented in 1989, the current resource consent for the associated discharge (DP130307L) was transferred to HBRC from 'Waipatiki Trust' on 21 September 2017 and expires in May 2024. Wastewater from the self-contained cabins, campervan discharge points, toilet blocks and lessee accommodation is conveyed across the site to a central septic tank and pump well where it is then pumped to the oxidation pond for settling and then discharge downhill from the pond, uphill from the campground. The as-builts from the 1989 plans (below) show an emergency overflow from the campground system to a sandy area at the edge of the beach and Waipātiki Stream.

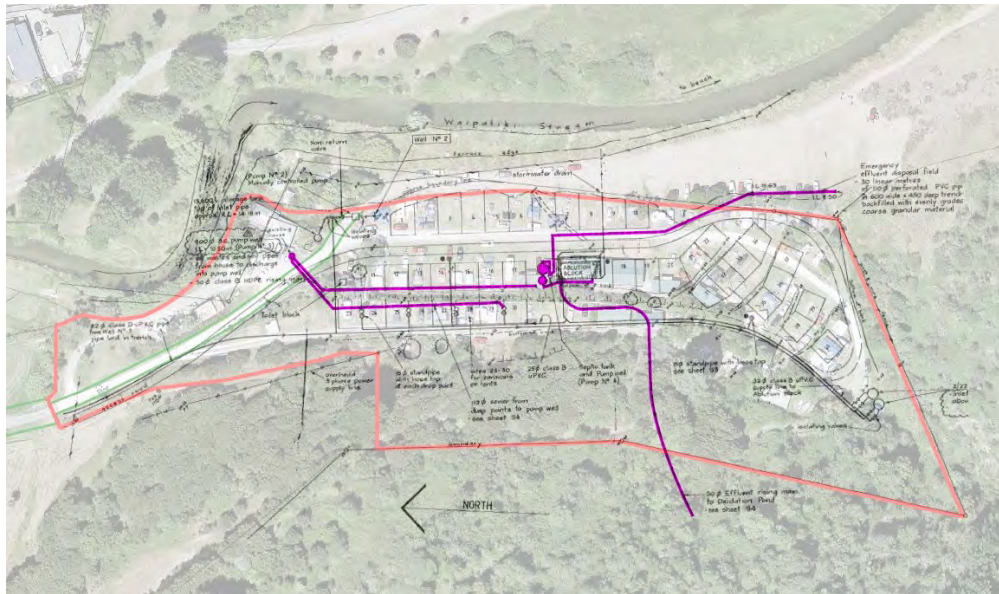


Figure 1: DVLP drawing DP14.2, As-builts of campground system (1989) combined with 2019 and 2020 aerial imagery for campground wastewater system

A report on the campground system by Stantec in 2021 (the Waipātiki Wastewater Treatment Review), was completed during the design and consenting of Hastings District Council's (HDC) new Water Treatment Plant at Waipātiki, primarily to understand the potential upgrades needed to the WWTP to take the WTP backwash and campground wastewater flows. The report states that the campground flows are not well defined and there were inflow & infiltration (I&I) issues historically. During a Long Term Solution project team site visit by HDC and representatives of Good Earth Matters and GHD, including the author, in December 2022 the campground manager confirmed that these I&I issues had been investigated and it was understood the main issues were resolved. Assuming these issues are resolved, and peak flows are no longer influenced by rainfall, the estimated maximum daily flow for the campground in the Stantec report was 20.28 m³/day.

The second investigation of the campground system to further understanding of feasibility of connecting to the WWTP, following the commissioning of the WTP, was completed in February 2023 by GHD. The report estimated peak daily flow at the campground to be around 23 m³, generally aligned with the earlier estimates.

Following Cyclone Gabrielle in February 2023, Tonkin + Taylor undertook a visual inspection of the oxidation pond on behalf of HDC in March 2023. While they suggested short term risks may be unlikely, there were multiple slips present on the downstream face of the embankment and the overflow channel from the pond appeared to have contributed to one of the slips. Their recommendations for medium to longer term operation of the pond in terms of stability were that it would require lining, significant works to create a downstream buttress with drainage, improvements to the outlet channel and removal of some trees. Further, to meet current regulatory standards it is

likely the pond lining works would not be insignificant and would include removal of sludge prior to installing the lining.

An additional complication with the oxidation pond is the lack of legal arrangements or property rights for its use. The campground is on its own title, held by HBRC, the uphill area where the oxidation pond and discharge area are located is forestry land owned by Pan Pac (see boundary lines on Figure 2). A legal agreement for the use of this system would likely be required for both operational and consenting purposes.



Figure 2: Site plan showing property boundaries (white lines) and three waters infrastructure for campground and community WWTP

SUMMARY OF CURRENTLY AVAILABLE LABORATORY RESULTS

The available laboratory data for the Waipātiki beach campground is a limited dataset at present. Samples have been collected on different occasions, analysed for different parameters and in different locations. Table 1 compares the post-septic tank (expected primary treated) wastewater from the campground with post-on-lot primary treatment for the community WWTP scheme. In table 2, samples collected of the campground discharge post-oxidation pond (expected secondary treated) and prior to discharge are compared with community WWTP effluent prior to discharge.

Primary treatment performance

As shown in table 1, limited primary treatment appears to be occurring in the septic tank at the campground at present; nitrate+nitrite is marginally above LOD while ammoniacal and Total Kjeldahl Nitrogen are elevated significantly above the community influent. Essentially no treatment of organic nitrogen compounds appears to be occurring based on this proportion of nitrogen compounds in the campground wastewater. Further the chemical and biological oxygen demand are significantly elevated. TSS and VSS also indicate limited treatment of the wastewater has occurred in the tank at this stage. A number of parameters are not available (e. coli and faecal coliforms), however, the available information strongly suggests that the septic tank is not currently treating the wastewater to an expected primary standard.

Secondary Treatment Performance

Table 2 shows the TSS of the effluent following the oxidation pond to be significantly elevated (more so than the pump station samples, noting these are not directly comparable as they were taken on different occasions). However, the highest concentration of TSS recorded at the community WWTP in 14 years of data for the effluent is 230 mg/L, the campground effluent sample in Table 2 is more than double this value. While total nitrogen is low, there is no data available on ammoniacal nitrogen and from the Table 1 results, this analysis would be critical to confirming if sufficient treatment is occurring. The biological oxygen demand while reduced from the pump station samples is higher than would be expected for secondary treated effluent and faecal coliforms are still present at a concentration that may present some risks.

It is important to note that the community WWTP performance is well understood with daily to weekly sampling since 2022 as part of this project as well as compliance monitoring samples quarterly since 2010. Fluctuations are to be expected in extreme weather conditions and periodically these do not necessarily present significant risks, However, without such a large volume of monitoring data the campground samples cannot be assumed to be temporary fluctuations and also treated with caution that they do not necessarily represent the average nor the worst case scenario for the campground wastewater performance.

In summary, the available results at present do not show sufficient treatment of the wastewater for a variety of parameters (organic nitrogen, phosphorus, faecal coliforms or TSS) and due to the limited monitoring results the true performance of the treatment system could be worse than these available data.

More monitoring data would be required to characterise the influent and effluent of the Waipātiki beach campground and confirm its treatment performance and nutrient loading to be able to connect it to the community WWTP.



Table 1: Summary of post-primary treatment from campground samples prior to pumping to the oxidation pond, and community WWTP influent after on-lot primary treatment before joining the community WWTP

	Date	07/02/2023	07/02/2023	07/02/2023	11/02/2023	13/12/2023	09/01/2024
	Location / Units	Waipātiki Beach Campground (pump station prior to pond)	Waipātiki Beach Campground (pump station prior to pond)	Community WWTP influent	Community WWTP influent	Community WWTP influent	Community WWTP influent
ph		7.4	7.6	7.8	7.8	7.2	7.3
TSS	g/m ³	66	58	<3	<3	9	41
Total Alkalinity	g/m ³	720	650	210	168		
VSS	g/m ³	64	52	<3	<3		
Total Nitrogen	g/m ³	113	96	47	50	20	77
Ammoniacal N	g/m ³	121	95	14.3	7.2	18.1	71
Nitrate + Nitrite - N	g/m ³	0.03	<0.02	36	44	<0.02	<0.02
TKN	g/m ³	113	96	11.5	6	20	77
DRP	g/m ³	14	11.6	6.7	7	2.4	7.4
Total Phosphorus	g/m ³	14	12.5	6.8	7.4	2.8	7.7
Total BOD5	g O ₂ / m ³					13	87
CBOD5(aq)	g O ₂ / m ³	97	128	<2	<2		
CBOD5	g O ₂ / m ³	132	194	<2	<2	9	85
TOC	g/m ³					12	56
NOD	g O ₂ / m ³					78	310
COD	g O ₂ / m ³	430	370	34	32		
Oil and grease	g/m ³	21	19	<5	<7		
E coli	cfu 100mL					480,000	260,000
Faecal coliforms	cfu 100mL						



Table 2: Comparison of laboratory results for the effluent of the Waipātiki Beach campground prior to discharge and the community WWTP discharge

	Date	24/11/2021	07/02/2023	07/02/2023	13/12/2023	09/01/2024
	Location / units	Waipātiki Beach campground (effluent)	Community WWTP discharge	Community WWTP discharge	Community WWTP (effluent)	Community WWTP (effluent)
ph			7.6	8.2	7.8	7.4
TSS	g/m ³	544	5	4	4	<3
Total Alkalinity	g/m ³		220	184		
VSS	g/m ³		5	<3		
Total Nitrogen	g/m ³	10	17.4	30	32	52
Ammoniacal N	g/m ³		1.54	0.049	0.16	1.13
Nitrate + Nitrite - N	g/m ³		14.7	28	31	50
TKN	g/m ³		2.7	1.44	0.93	1.78
DRP	g/m ³		9	6.7	3.8	7.7
Total Phosphorus	g/m ³		8.5	6.6	4.1	7.9
Total BOD5	g O ₂ / m ³	30.9			<2	<2
CBOD5(aq)	g O ₂ / m ³			<2		
CBOD5	g O ₂ / m ³		<2		<2	<2
TOC	g/m ³				5.5	6.7
NOD	g O ₂ / m ³				0.7	4.9
COD	g O ₂ / m ³					
Oil and grease	g/m ³					
E coli	cfu 100mL				2,500	800
Faecal coliforms	cfu 100mL	1,340				



This Deed of Nomination is dated 12th of October 2016

Between Hastings District Council ("Hastings")

And Hawke's Bay Regional Council ("Regional")

Background

- A. Hastings has entered into an agreement dated 27 May 2016 ("the Agreement") to purchase approximately 2.06 ha comprising the Waipatiki campground ("the Property") from the Waipatiki Trust ("the Owner") at a price of \$900,000 plus GST if any, with settlement due upon issue of a new fee simple title for the Property held as recreation reserve.
- B. The agreement was conditional upon Hastings either itself funding the purchase, or getting another local authority or local authorities to accept nomination as purchaser.
- C. Napier City Council has agreed to contribute \$300,000 to the purchase, but does not wish to be nominated as purchaser or to otherwise take an ownership interest in the Property.
- D. Hastings has agreed to contribute \$300,000 to the purchase.
- E. Regional has agreed to contribute \$300,000 to the purchase and to accept Hastings' nomination of Regional as purchaser under the Agreement.
- F. Despite the nomination, there are certain aspects of the Agreement which Hastings has still agreed to perform, and Regional and Hastings have reached agreement on other contributions Hastings would make to the Property once it is in the ownership of Regional.

Now it is agreed:

- 1. Hastings nominates Regional to take title to the Property with effect from the date of this Deed (" the Operative Date") to the intent that from the Operative Date all the rights and interests of Hastings as purchaser under the Agreement shall pass to Regional, subject to the terms of this Deed.
- 2. Regional accepts the nomination made under clause 1.
- 3. Hastings agrees with Regional that Hastings will:
 - (a) comply with all the obligations of the purchaser under the Agreement up to the Operative Date;
 - (b) pay the deposit of \$90,000 when due under the Agreement and pay the further sum of \$210,000 (plus GST) towards the purchase price when required by the Agreement;
 - (c) declare the conditions in clause 18.1 of the Agreement waived on 1 September 2016 and give advice of the nomination of Regional as purchaser under the Agreement on

the basis that the Owner acknowledges that Regional will be given the opportunity to take part in the rent review process due under the Camp lease in November 2016;

- (d) undertake at its cost the subdivision of the Owner's title as set out in the Agreement, to deposit a plan to enable a separate fee simple title to issue as recreation reserve in the name of Regional and to pay the Owner's legal costs in relation to the subdivision in accordance with clause 20.13 of the Agreement;
- (e) consult with Regional to obtain its approval (not to be unreasonably withheld) of:
 - (i) the subdivision resource consent application prior to lodgement;
 - (ii) the terms of the proposed easements to be granted upon subdivision; and
 - (iii) the subdivision resource consent once issued and documentation to effect deposit of the subdivision plan as contemplated by clause 20 of the Agreement;
- (f) undertake at its cost the fencing and installation of a cattle stop as set out in clause 25 of the Agreement;
- (g) within 6 months of the settlement date of the Agreement, undertake at its cost the following repairs and maintenance items on the Campground wastewater system:
 - (i) repair the outlet walkway to make it safe;
 - (ii) fence the perimeter of the wastewater pond; and
 - (iii) remove pine trees close to the pond edge if they are unstable;
- (h) maintain an effective wastewater system for the Campground at all times. Hastings will connect the Campground to the Waipatiki sewerage scheme owned and operated by Hastings by 30 June 2018, unless Hastings and Regional agree an alternate later date for such connection;
- (i) meet the costs of any future connections to the Hastings District Council Waipatiki water scheme;
- (j) within 4 months of the date of this Deed engage, at its cost, an independent building assessor to identify any issues of non-compliance with improvements upon the Property and provide the assessor's report to Regional for Hastings and Regional to subsequently consider what steps, if any, will be taken by either party;
- (k) maintain the rights of way over the Property and the Owner's land; and
- (l) indemnify and keep Regional indemnified from and against all actions, proceedings, claims, costs and demands arising through any default by Hastings in complying with Hastings' obligations under this Deed.

4 Regional shall:

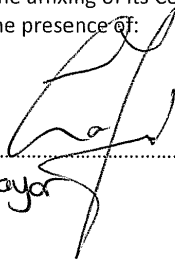
- (a) subject to Hastings' performance of its obligations under clause 3, comply with all the obligations of the purchaser under the Agreement with effect on and from the Operative Date;
- (b) indemnify and keep Hastings indemnified from and against all actions, proceedings, claims, costs and demands arising through any default by Regional in complying with Regional's obligations under this Deed;
- (c) enforce the maintenance and repair obligations under the Campground lease against the tenant in respect of all services supplied to the Campground (including water and sewerage systems) and the maintenance of the right of way; and
- (d) promptly pass on to Hastings, any funds actually received by Regional from the tenant under the Campground lease in respect of the costs of maintenance of the water and sewerage systems and right of way.

5 Regional acknowledges that it has executed this Deed with notice of all terms and conditions contained or implied in the Agreement.

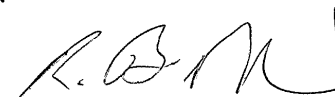
6 Each party shall pay its own legal costs of and related to the preparation and execution of this Deed.

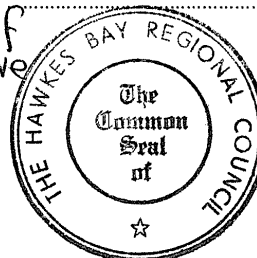
Executed by Hastings District Council
by the affixing of its Common Seal
in the presence of:



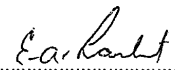

Mayor

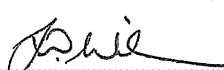
Executed by Hawke's Bay Regional Council
by the affixing of its Common Seal
in the presence of:

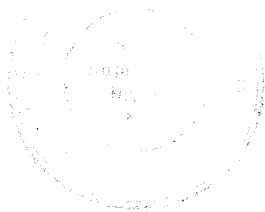

Chief Executive



Seal Number: 4026


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RESOURCE CONSENT

Discharge Permit

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

Hastings District Council

Private Bag 9002

Hastings

To discharge:

- i. secondary treated effluent from the Waipātiki settlement and run to waste and filter backwash water from the Waipātiki Drinking Water Treatment Plant via spray irrigation onto 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 and;
- ii. to discharge contaminants (odour) into air directly associated with the treatment and discharge of secondary treated effluent described in (i) above.

LOCATION

Address of site:

Waipātiki Road, Waipātiki

Legal description (site of discharge):

Pt Sec 30, Blk I Tangoio SD (SO 5560), Pt Lot 1 DP 13163

Map reference (NZTM):

1942096 – 5642546

CONSENT DURATION

This consent is granted for a period expiring on 31 May 2025.

LAPSING OF CONSENT

This consent shall lapse in accordance with section 125 of the RMA on the 31st May 2008, if it is not exercised before that date

Paul Barrett

Team Leader Consents

POLICY AND REGULATION GROUP

Under authority delegated by Hawke's Bay Regional Council

9th November 2021

CONDITIONS

General

1. All works and structures relating to this consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
2. The consent holder shall construct and undertake all operations specifically in accordance with
 - a) sections 5 and 8 of the report titled "Assessment of Environmental Effects for Waipatiki Beach Sewage Discharge to Land and Discharge to Air", prepared by Glasston Potts Fowler for Hastings District Council, dated 29 September 2005
 - b) the application for a variation to conditions prepared by Good Earth Matters for Hastings District Council dated September 2021 and the s92 response prepared by Good Earth Matters for Hastings District Council, dated 3 November 2021

If a conflict arises between sections 5 and 8 of the above report and any conditions of this consent, the conditions of this consent will prevail.

3. The treatment and disposal system shall be designed and installed in 2 stages; with stage one consisting of no more than 76 connections derived generally from the existing dwellings and proposed 30 lot subdivision; and stage two consisting of up to 96 additional connections generally from any future development which is not part of stage one.
4. The consent holder shall locate the effluent disposal fields in accordance with the proposed effluent disposal plan, submitted with this application and attached.
5. After installation of the wastewater treatment plant and effluent land application area for stage one, but before the discharge commences, the consent holder shall provide the Council (Manager Compliance) with:
 - a) an 'as built' plan of the wastewater treatment plant and land application area that clearly shows their location and layout, in particular the plan shall show any distances and dimensions specified in the conditions of this consent or in the application; and
 - b) a producer statement signed by a suitably qualified person stating that the installation is in accordance with the 'as built' plan provided, and with the conditions of the consent.
6. After any modifications to the wastewater treatment plant in order to accept the Drinking Water Treatment Plant run to waste and filter backwash discharges and after any expansion of the wastewater treatment plant and effluent land application area as part of stage two, but before the increased discharge commences, the consent holder shall provide the Council (Manager Compliance) with:
 - a) an 'as built' plan of the wastewater treatment plant and land application area that clearly shows the extended layout, in particular the plan shall show any distances and dimensions specified in the conditions of this consent or in the application; and
 - b) the daily and weekly volume of effluent able to be discharged to the land application area (stage one and two combined) based on the application rate stated in condition 12 (calculations of this volume shall also be provided).
 - c) a producer statement signed by a suitably qualified person stating that the installation is in accordance with the 'as built' plan provided, and with the conditions of the consent.

Activity

7. For each property connected to the sewage system, excluding the Waipātiki Water Treatment Plant, there shall be an on site interceptor tank with capacity of no less than 4 m³, through which all effluent from that site shall pass. Each tank shall be fitted with an Orenco Biotube Effluent Filter.
8. The treatment plant can be constructed in a staged manner with stage two extending the sewage treatment plant to cater for a total of 172 sites.

9. The consent holder shall ensure that the sewage treatment system (excluding the effluent land application area) is designed and maintained so that all effluent can be retained within the system (excluding the effluent land application area), above the alarm level, without overflow for a period of 24 hours.
10. The volume of effluent to be discharged to the effluent land application area shall not exceed **76 m³ per day (532 m³ over a 7 day period)** during stage one, nor shall it exceed **172 m³ per day (1204 m³ over a 7 day period)** at the completion of stage 2.
11. The rate of application of effluent shall not exceed **5 mm/m²/day at any time**.
12. The effluent discharged to land shall be spread over an area not less than 1.52 hectares for stage one, and 4 hectares at the completion of stage two. The disposal fields shall be limited to the area identified on the proposed effluent disposal plan, submitted with this application and attached as Appendix 1.
13. The application of effluent shall not result in nitrogen loading of 150 kg/N/ha/year.
14. Any effluent discharged to the effluent land application area shall meet the following standards.
 - a) BOD5 less than 30 mg/L
 - b) Total Suspended Solids less than 30 mg/L
 - c) Nitrate Nitrogen less than 20 mg/L
15. The land application area, the on-site interceptor tanks, the sewage treatment plant and pump station shall be located at least 1 metre from any property boundary.
16. There shall be no surface runoff, ponding or contamination of water resulting from the discharge of effluent to land.
17. The discharge shall not result in any offensive or objectionable odour beyond the boundary of the property where the on-site interceptor tanks, sewage treatment plant, and effluent disposal fields are located.
18. The consent holder shall initiate stage 2 of the proposal, either when the 76th connection occurs or when the discharge volume reaches 76 m³ per day, whichever is reached first.

Maintenance and Monitoring

19. The consent holder shall nominate a person who is responsible for the maintenance of the wastewater treatment system and the return of all information required by the conditions of consent. The consent holder shall advise the Hawke's Bay Regional Council (Manager Compliance) who this person is prior to the first discharge from the wastewater treatment system. If the nominated person changes then the Regional Council shall be notified of this change within ten working days of the change occurring.
20. The consent holder shall notify the Council (Manager Compliance), at least two working days in advance of the date of the first discharge to the effluent land application area.
21. An in-line meter shall be installed before the discharge field and continuously maintained to measure the volume of effluent discharged to an accuracy of +/- 5%. The meter readings shall be recorded daily and forwarded to the Hawke's Bay Regional Council (Environmental Regulation) on a quarterly basis in an electronic format compatible with the Council's systems, no later than 28 February, 31 May, 31 August and 30 November each year.
22. From three months after commissioning of the system the consent holder shall ensure the discharge to the effluent land application area is sampled four times per year during the months of February, May, August and November for the analytes listed below.
 - a) 5 day Biochemical Oxygen Demand
 - b) Total Suspended Solids

- c) Total Nitrogen
 - d) Total Phosphorus
 - e) Faecal Coliforms
 - f) E.coli
23. If any effluent sample taken in accordance with condition 22 that does not comply with all of the standards in condition 14, additional samples shall be taken on at least two different occasions within 30 days of the receipt of the non-complying sample results. Both of these additional samples must meet the standards shown in condition 14.
24. Prior to commissioning of the system, and 12 months after the first discharge, the consent holder shall undertake a survey of the Kowhiro Stream, upstream and downstream of the discharge at sites agreed to by the Hawkes Bay Regional Council (Manager Compliance), to determine the E.coli level, the Macroinvertebrate Community Index (MCI), and biota of the Stream. The results of the survey shall be forwarded to the Hawkes Bay Regional Council within one month from the completion of the survey.
25. The consent holder shall take samples from the Kowhiro Stream at sites agreed to by the Hawkes Bay Regional Council (Manager Compliance), upstream and downstream of the disposal sites, annually during the month of February for the analytes listed below:
- a) Faecal Coliforms
 - b) E.coli
 - c) Dissolved reactive phosphorus
 - d) Total Ammonia
26. All sampling and surveys shall be carried out by a person suitably qualified and experienced in this field and authorised by the Council (Manager Compliance).
27. All analyses in accordance with conditions 22 and 25 shall be carried out by an independently accredited laboratory in accordance with the Standard Methods for the Examination of Water and Wastewater (20th Edition 1998), published jointly by the American Public Health Association, American Wastewater Association, and Water Environment Federation.
28. The results of analyses in accordance with conditions 22 and 25 shall be forwarded to the Council (Manager Compliance) within one month of sample results being received.
29. The consent holder shall ensure that maintenance of the wastewater treatment plant occurs at least twice per year. This maintenance shall ensure that all mechanical, electrical and process components of the plant are functioning properly. The results of these maintenance checks (such as a copy of the service report) shall be forwarded to the Council (Manager Compliance) no later than 28 February and 30 November, annually.
30. The Consent Holder shall log all complaints received either by the Consent Holder, or by any party contracted to the Consent Holder. The log shall include the:
- a) Date and time of the complaint;
 - b) Nature of complaint;
 - c) Name, address and telephone number of the complainant;
 - d) Weather information (an estimation of the wind speed and direction);
 - e) Details of key operating parameters at the time of the complaint; and
 - f) Remedial action taken to prevent further incidents.

Complaints shall be reported to the Council immediately and the log of complaints shall be made available to the Council on request.

31. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
- a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
 - b) To require the adoption of the best practicable option to remove or reduce any effects on the environment.
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.
 - d) To impose a discharge standard if it is considered necessary.
 - e) To require the installation of an effluent meter to confirm compliance with the authorised discharge volume.
 - f) To modify or add any condition to ensure the activity is undertaken in accordance with operative plans.

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 and with all relevant plans and policies.

MONITORING BY THE COUNCIL

Routine monitoring

An initial routine monitoring inspection will be undertaken by Council officers to establish that the wastewater treatment plant and effluent land application area have been constructed in accordance with the consent and application documents.

Thereafter, site inspections will be undertaken by Council officers once every year. Council staff may take a sample of the effluent for analysis of the effluent quality. Grades of compliance will affect the frequency of subsequent monitoring inspections. Non-routine inspections will also be undertaken if there is any reason to believe that the consent holder is in breach of the consent conditions. The cost of these inspections is charged to the consent holder.

Non-routine monitoring

“Non routine” monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA shown below.

Section 17(1) of the RMA states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

- a) any of sections 10, 10A, 10B, and 20A; or
- b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council may levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Annual Plan process.

DEBT RECOVERY

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

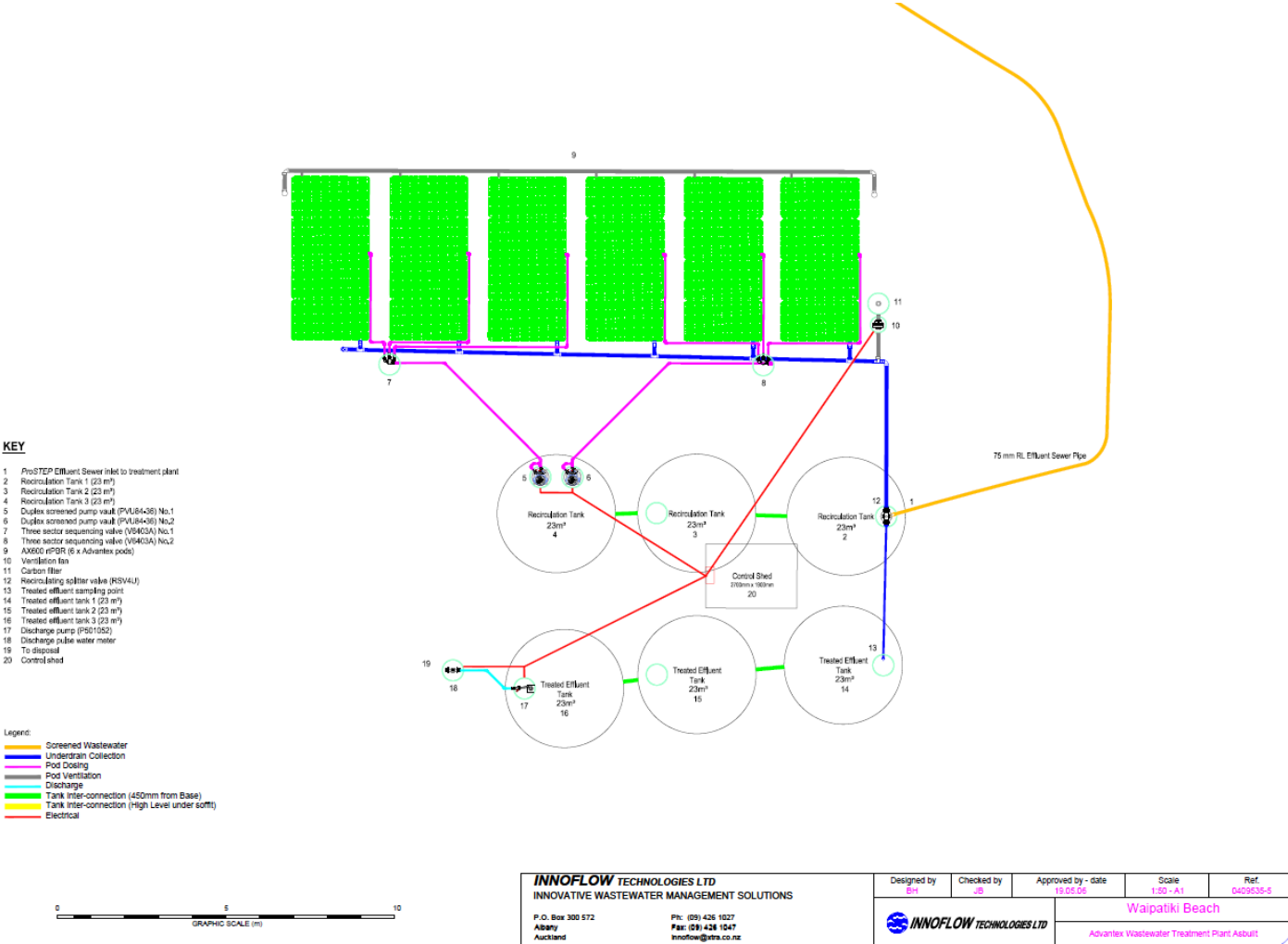
CONSENT HISTORY

Authorisation No.	Date	Event	Relevant Rule	Relevant Plan
AUTH-115047-01 / DP050397L (Discharge to land)	10/11/05	Consent initially granted	50	Proposed Regional Resource Management Plan
AUTH-115048-01 / DP050398A (Discharge to Air)	10/11/05	Consent initially granted	28	Proposed Regional Resource Management Plan
AUTH-115047-02 (Discharge to land)	09/11/2021	S127 Variation to include discharge of run to waste and filter backwash water from the Waipātiki Drinking Water Treatment Plant and vary method of discharge from drip to spray irrigation	S127	Resource Management Act. 1991
AUTH-115048-02 (Discharge to air)	09/11/2021		S127	Resource Management Act. 1991

Appendix 1 – As built plans



AUTH-115047-02 and AUTH-115048-02



AUTH-115047-02 and AUTH-115048-02

