

DRAFT DISCUSSION DOCUMENT

Purpose

This document serves to summarise at a high-level the history of the Raglan wastewater project including land areas involved, historical decision-making processes. This is not a comprehensive overview of work undertaken to date and is intended as an education tool.

1. Existing Treatment Process

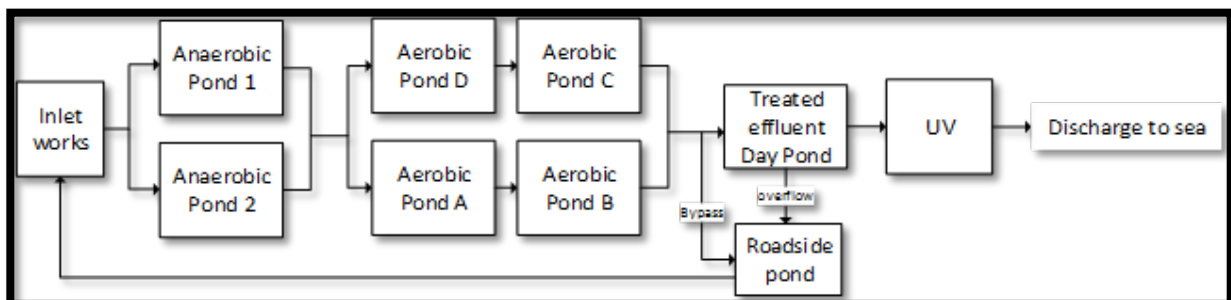
The WWTP originally consisted of two oxidation ponds which discharged into the harbour mouth. Since 2007, there have been subsequent upgrades which are summarised in Table 1.

In addition to the main WWTP, a septage receiving facility was also constructed on site to receive septage waste brought to the site from septic tank collection.

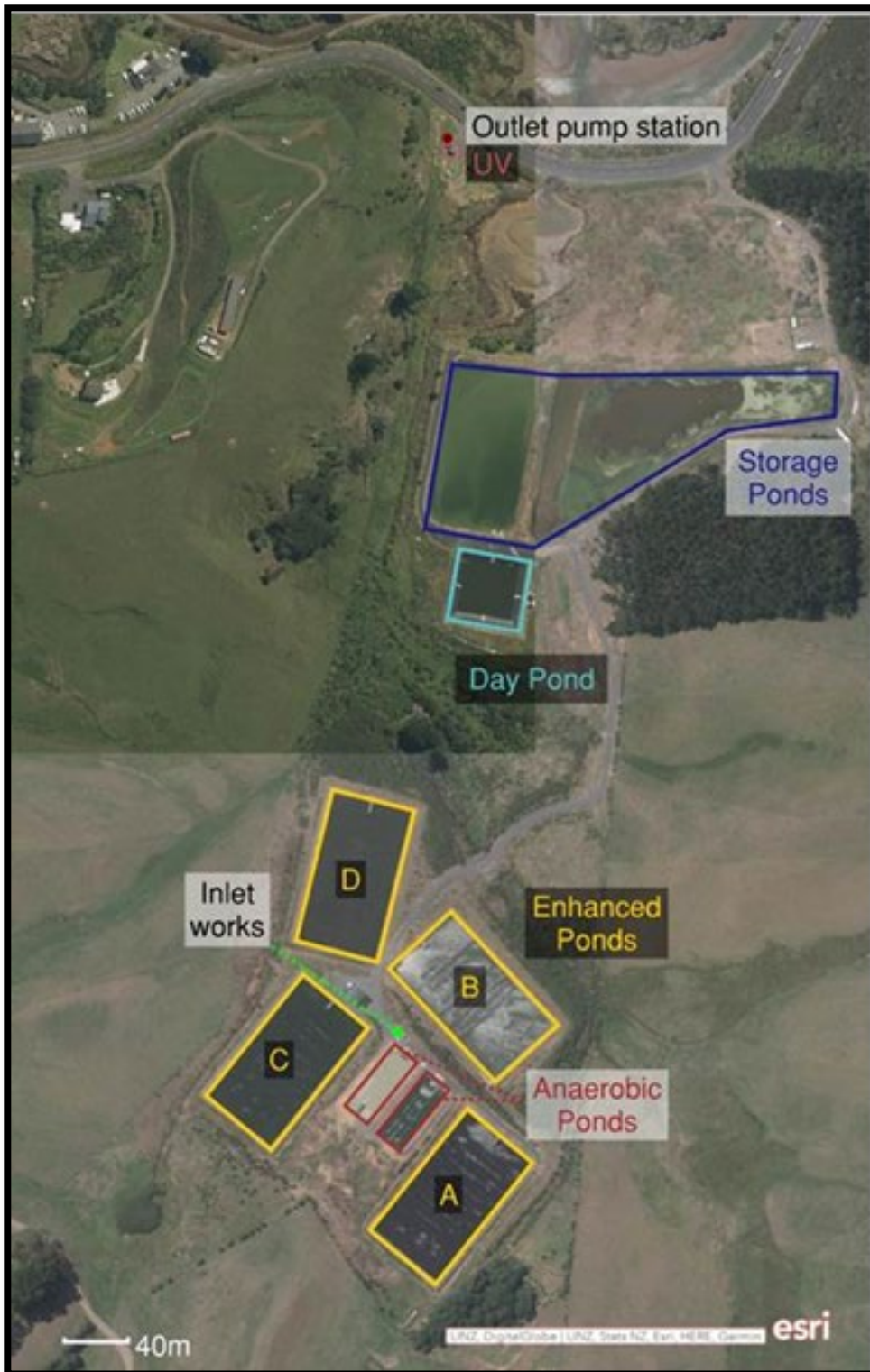
Table 1: Wastewater Treatment Plant Upgrade History

Year	Upgrade
1976	WWTP built (two oxidation ponds)
2007/08	Removal of existing oxidation ponds, installation of anaerobic, aerobic (aquamats and aerators) and storage ponds
2008	UV disinfection installation
2010	Septage reception installed
2015	Day pond installation to reduce algal concentrations in the treated wastewater and provide storage prior to discharge
2017	Aerobic pond upgrade (additional aeration and aquamats to increase the treatment capacity)

The WWTP is located to the south-west of the Raglan community on Wainui Road. Wastewater is received at the inlet works (screen), from where wastewater is piped to anaerobic ponds 1 and 2, then aerated ponds A and D, and on to ponds B and C as represented in the image below.



The image below shows the layout of the site. The aerobic ponds have an aeration system and aquamats installed. The aquamats provide additional surface area for biological activity. The pond treated wastewater currently discharges into a day pond for storage prior to discharge on the outgoing tide. If the holding capacity of the day pond is exceeded, it will overflow to the roadside (storage) pond. From the day pond treated wastewater is pumped via an inline UV disinfection system to the mouth of the Whāingaroa Harbour.



2. Description of the Existing Harbour Outfall

Treated wastewater from the existing WWTP discharges from an outfall at the mouth of the Whāingaroa Harbour shown in the image below.



The outfall is an Asbestos Cement (AC) 0.22m outer diameter pipeline which emerges in the main channel approximately 65m from the sandbank adjacent to the road. The end of the outfall pipe sits in a depth of approximately 0.3m below chart datum and has existed in this location for approximately 30 years. Historically, it is thought the outfall had a diffuser structure, however this was damaged and broke off. The exact time of the damage occurring is unknown however the structure existed in its present state in 1997, it is assumed the damage took place before then. The existing pipeline now has an open end. The wastewater pipeline route to the outfall is shown in the following image.



Raglan Pipeline

WDC Waters Assets Team
 Created By: Leonel Maranon
 Created For: Nicola Marvin
 Date Created: 13 May 2019
 Projection: WGS84

Copyright © Waikato District Council
 Map data © 2019 Google

DISCLAIMER: Waikato District Council accepts no liability for data inaccuracies and information should not be used as evidence.

3. Wastewater Treatment Plant Consent History

The history of the Raglan WWTP is complex. The Ministry for the Environment publication 'Sustainable Wastewater Management – A Handbook for Smaller Communities (2003)' used Raglan as a case study. The text below from the report provides a useful summary to that point in time.

Raglan wastewater and community consultation

In 1994 a resource consent was issued to the Waikato District Council to increase the maximum sea discharge from the Raglan oxidation ponds from 1,000 to 2,600 cubic metres per day. The consent period was five years, with the condition that alternative options be investigated and trialled. The decision was appealed by tangata whenua representatives.

To resolve the appeal, a consultative group was established comprising tangata whenua representatives and an equal number of other community members appointed by the Raglan Community Board. The consultative group developed a number of options during an agreed one-year period and resolved by majority vote that a pond/wetland treatment system incorporating an extended sea outfall be adopted. The treatment standard was to meet bathing water guidelines. However the pond/wetland system did not receive the backing of tangata whenua. Consents for the pond/wetland system were granted in 1999 for a peak discharge of 3,400 m³ per day, and were subsequently appealed by mana whenua representatives, council and other individuals. The mana whenua appeals concerned the continued discharge to sea and wāhi tapu issues relating to the existing treatment site.

A mediation convened by the Environment Court was held in 2000, where it was decided that the views of council and other appellants were too divergent to allow mediation to occur. It was agreed that a less formal, facilitated meeting process might be helpful in reaching resolution. A series of facilitated meetings was held between 2000 and 2002. The meetings were funded by the council and a meeting allowance paid to appellants. A number of treatment and disposal options were put forward for consideration by appellants, council, consultants and specialist companies. Several preferred options were investigated in greater detail.

In 2002 agreement in principle was verbally reached between mana whenua appellants and council for an immediate upgrade to the treatment process to produce a shellfish-

quality discharge of 2,600 m³ per day, a 15-year consent term, and the commitment of \$1 million of council funding toward investigation and implementation of land disposal within a five-year period. The wāhi tapu site would be restored by removal of the front treatment pond. However, the agreement was not formally signed by the mana whenua appellants, who subsequently sought a five-year consent term and financial penalties on council if land disposal is not in place within five years. Mana whenua's stated bottom line is that there be no discharge to sea. Also, they retain a historical distrust of council arising from past events.

Council is reluctant to give a cast-iron guarantee that land disposal of all treated wastewater can be practically achieved within five years. This is due principally to the poor soakage characteristics of local clay soils and the potential effects on small tributary streams.

The council's perspective was that the facilitated meeting process allowed full and open discussion and provided a forum where options could be fully investigated, criticised and evaluated in light of all parties' concerns. It allowed the parties with widely differing views to come very close to reaching agreement.

The perspective of some of the appellants was that there was a recognition of equity issues and there was a genuine attempt by council to investigate alternatives and address issues. However, from the appellant's perspective, this was only a small step towards an inclusive and open process. This reflects the importance of good process in resolving these differing points of view.

After almost \$1 million expenditure of public money on the process and investigations since 1994, a full court hearing still appears likely. The old oxidation ponds are still in service awaiting a major upgrade, while the township of Raglan continues to grow rapidly. Designing a process involving community and Māori at the beginning would probably have reduced these costs.

<https://www.mfe.govt.nz/publications/waste/wastewater-mgmt-jun03>

- In 2004 the case went to an Environment Court hearing, where Tainui as appellants took the position that a five-year consent should only be granted to allow WDC enough time to investigate land-based alternatives. The WDC position was that land was not available and that any land-based alternatives would be too costly. WDC was granted a 15-year consent expiring in February 2020.

4. WDC Land Investigations – between 2000 and 2002

Between 2000 and 2002 a number of land investigations were undertaken – these are reported in the following reports:

1. Raglan Land Treatment Options Report – June 2001 (prepared by PDP)
2. Raglan Land Treatment Options: Evaluation of Five Alternative Options – July 2001 (prepared by PDP)
3. Raglan Rapid Infiltration Investigation – January 2002 (prepared by PDP)

A high-level summary of these previous reports is included below:

Raglan Land Treatment Options Report – June 2001

- Feasibility study which looked at options of disposal by slow rate irrigation to pasture and forest, rapid infiltration to sand dunes and several combinations of these options with the existing ocean discharge. Costs were also investigated.
- Land disposal sites were identified by the Council and the Community Working Group, and the study focussed on these sites – these sites included the Raglan Golf Course (new site not Te Kopua), Wainui Reserve and Ngarunui Beach Sand Dunes
- The study concluded that there was insufficient land area available in the areas identified for slow rate irrigation – additional land could possibly be obtained, but capital costs of an irrigation system is high. Private land was not investigated.
- The cheapest option as to upgrade the existing standalone ocean discharge, but that was not favoured by the Working Group. The most favourable land disposal option was considered to be rapid infiltration or the cheaper option of rapid infiltration plus ocean discharge. It was recommended that these options were investigated further.

Raglan Land Treatment Options: Evaluation of Five Alternative Options – July 2001

- Assessment of five options put forward by the Working Group, these options included:
 - Satellite systems – this would split Raglan into a number of different areas. Each catchment would have a small scale system that treats the wastewater and disposes it to land in near vicinity. It was proposed to be a septic tank system, followed by treatment pyramid and wetland pond/soakage system.
 - Pre-treatment option – this option proposed separation of grey water from black water, with either soakage/evapotranspiration fields.
 - Clusters option – Smaller version of the satellite option, with groups of say 8 or 9 houses connected to a septic tank followed by a wetland pond system and then an evapotranspiration/soakage field.
 - Pyramid, water garden, evapotranspiration system option - This option (proposed by Mr Hart of the Working Group) takes the sewage from the entire municipal system and utilises an anaerobic tank, followed by one or two Romanian Pyramid treatment systems followed by a discharge to water gardens with flow forms. Wastewater then flows into an evapotranspiration/soakage field where it is disposed of. The water gardens and evapotranspiration/soakage field were to be located on the Raglan golf course, and the treatment pyramid is located on land above the golf course.
 - Adjacent valley option – this option involved the purchase of land in the valley that contained the oxidation ponds. The entire valley was to be used as a wetland and evapotranspiration/soakage and overland flow system.

- Each of these options were evaluated by PDP and advantages, limitations and requirements were identified
- The report noted that several aspects of the options suggested appeared feasible, but noted:
 - In general, due to the climate of the region where the annual rainfall is significantly higher than annual evapotranspiration, the use of large wetland soakage system was counterproductive. This was because there is a surplus of water during wet period that must be disposed of.
 - Option that are worth further consideration included – grey water and disposal option for new housing developments on sites larger than 2,500 m², cluster or satellite systems could be considered for new housing developments. It was noted in the report that the Valley option could be investigated further.

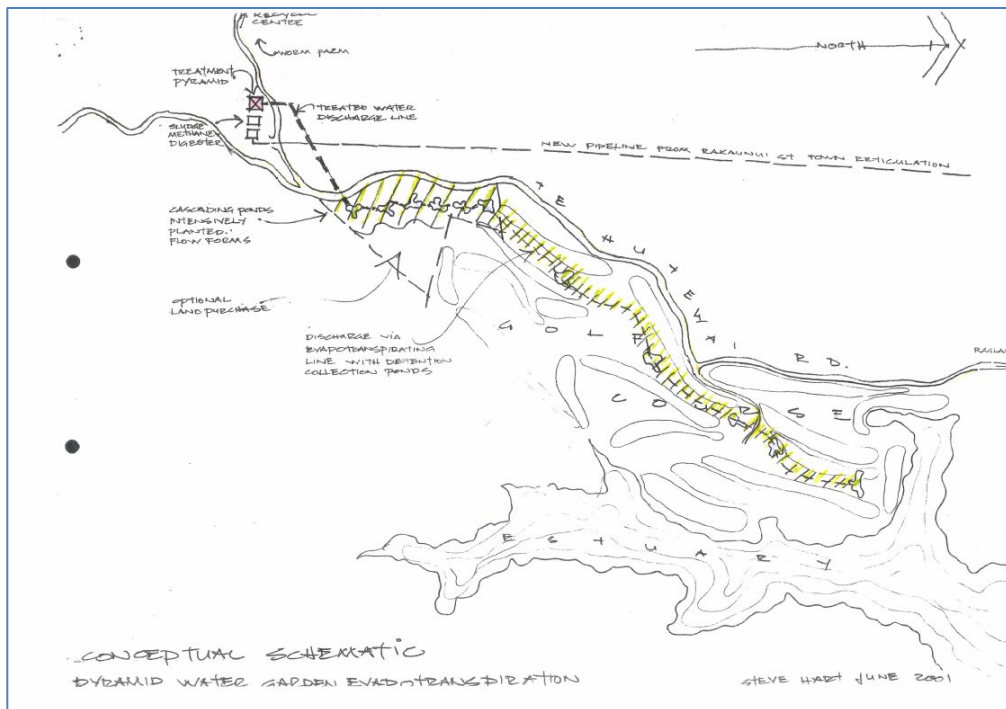


Image Sketch of Pyramid Water Garden Option

Raglan Rapid Infiltration Investigation – January 2002

- Involved a field study involving groundwater investigations, drilling and groundwater modelling to the option of rapid infiltration
- A potential site in the dunes at the northern end of Ngarunui Beach was investigated
- Boreholes revealed that volcanic rock was observed at approximately 4m depth, much shallower than expected (other west coast areas have sand approximately 30m deep)
- The study concluded that there was an insufficient length of coastline available for a standalone rapid infiltration system