

# 23/2 -Raglan WWTP consenting overview. S HOWARD

## Present status - Private land discharge focus

### Methodology, treatment, and examples

- After a robust multi-property investigative exercise, a discussion is advancing with the possibility of securing ideal land as the primary site of land discharge for a 35-year duration. Theoretical securement of a Mangatawhiri Road fronting property has the potential to provide for an annual land discharge solution (with a relief valve), given that soils may theoretically take winter flow when balanced with onsite storage at the Raglan Treatment Plant. This is enabled by the properties deep loamy soils, which can be found at discrete locations of flatter areas making up approximately 20ha.
- The method of theoretical discharge would be by subsurface drip irrigation (SDI) where the images below present Pauanui examples of SDI fields. These are installed 15-25cm beneath the ground and are located within the town's central public park, a portion of the road median strip, and the town airfield. The golf course can receive treated wastewater for surface irrigation in Summer if it wishes.
- The project team investigating Raglan SDI opportunities includes experts that have delivered such a discharge solution to communities comparable to Raglan in setting and size.
- Such a discharge solution would need to be coordinated alongside a necessary treatment plant upgrade (Wainui Road) where nutrients (N and P) would be lessened in contrast to the existing oxidation ponds treatment that would be replaced.
- The Pauanui images below highlight the mid-summer contrast between greened irrigated land and dry browned-off sandy soils. The SDI methodology allows co-use and public access as the discharge network operates unnoticed. The fields are within a residential setting, whereas any Raglan solution would be in a rural setting in a manner unlikely distinguishable from other existing farming activities in the area.
- Sandy soils of Pauanui differ from the West Coast. The younger volcanic soils (Kauroa soils – Ku +KuH) at the outskirts of the township are suited for SDI, whereas the weathered clay soils of Raglan are not.
  
- The Pauanui aerial map also highlights the Wastewater Treatment Plant (WWTP) location where Sequence Batch Reactor (SBR) technology is used. The Raglan WWTP is planned to have a superior upgrade (i.e. membrane bioreactor -MBR), where planning is underway now. The Waikato District has its first MBR in Meremere, where tours to highlight the technology and efficiency are undertaken that has impressed many.
- Any Raglan WWTP upgrade would include state-of-the-art on-site treatment, U.V. treatment, and potentially residual chlorination with any subsurface land application (needed for conveyance). Discharge through soil offers a theoretical further bioremediation safeguard, however, the advantage seen in many communities with land discharge is the:
  - cultural treatment of water (mauri restoration) and;
  - demonstration of the reuse of reclaimed water.
- Bioremediation is the reason that wastewater to land has been utilised for centuries. The Raglan soils targeted have a charge that attenuates any residual virus or bacterial load (considered likely to be minimal or unmeasurable after treatment), and these residual organisms become food for other naturally occurring microbes living within the soil.

Present status - Public land and ocean discharge:

- Public land and ocean discharge remain non-fanciful options also. Both these options are less closely aligned with the agreed project objectives (see the image below).
- The continued tidal discharge is abhorrent to mana whenua, and many of the community (not all), where past RMA discharge consenting processes have been through the Environmental Court as a result of appeal (both hapuu and others), where the Court offered:
  - shorter-term consents, with;
  - guidance to find a non-marine discharge for the community.

Consenting Scenarios:

- Land securement is the critical determinant of any actual long-term private land discharge solution. Private parties are working in good faith alongside the Project Team to understand any agreeable 'in principle' securement of correct soils can be achieved.  
This work is specialised, time-consuming, and reliant on differing parties for decision-making. Given the complexity, working through such an option has taken time, however strong support has been shown toward the project team by many key stakeholders, as the investigation has continued.
- WDC representatives are covering opportunities with a landowner presently, with the intent of both parties to work together. This work is separate from the technical investigations underway, which are environmental, engineering, and costing focussed.
- With any such 'in principle' agreement in place, the project team will need to then have confidence that intensive further investigation should proceed at the site (i.e. pilot trial and test bore installation), given indicators that it is suited for SDI (WDC permissions for spending would be applied for). Any completion of such activities could then:
  - Allow comparison for such a solution against the remaining options, and;
  - present to community partners and hapuu, explaining necessary process steps to establish this as the best practical option (BPO) through multi-criteria analysis. This ensures community voice and partnership occur as best as practical.
- RMA application preparation and lodgement could then occur, followed by notification by the Waikato Regional Council (WRC), allowing community submissions (in support or opposition).
- The environmental regulator (WRC) has the statutory responsibility to ensure that any adverse effects of the proposal are avoided, remedied, and mitigated. This critical decision on any application must ensure that people's social, economic, and cultural well beings are protected, alongside the protection of the environment;
- If a private land solution is not achievable, any land discharge solution would likely require the WDC Parks and Recreation Department to provide affected party approval to consider the use of the remaining land solution which is via public lands (particularly Wainui Reserve). As demonstrated by Pauanui, retrofitting suitable public land for joint use can be a feasible option.
- The sandy lower soils may offer a theoretical discharge solution, where differing challenges would be present, requiring investigation. Upper areas of the reserve would not offer a discharge solution given the clay characteristics of the open paddocks, however, a summer re-use option on any agreed upper areas could theoretically be achieved.
- It would be considered that with such a public land scenario;
  - full community engagement and the joint decision would be undertaken by WDC, and;
  - there seems a lesser likelihood of a robust land long-term land-based solution being developed within the property.

- Finally, if no land solution is possible, then a treatment upgrade with continued tidal discharge is a remaining theoretical option. With such a scenario, it may be the case that any WRC consent issued would be very short term (i.e. 5 years), with strong steering toward the establishment of a non-marine solution.



Images 1 and 2: Pauanui SDI methodology to be replicated with any Raglan land discharge solution

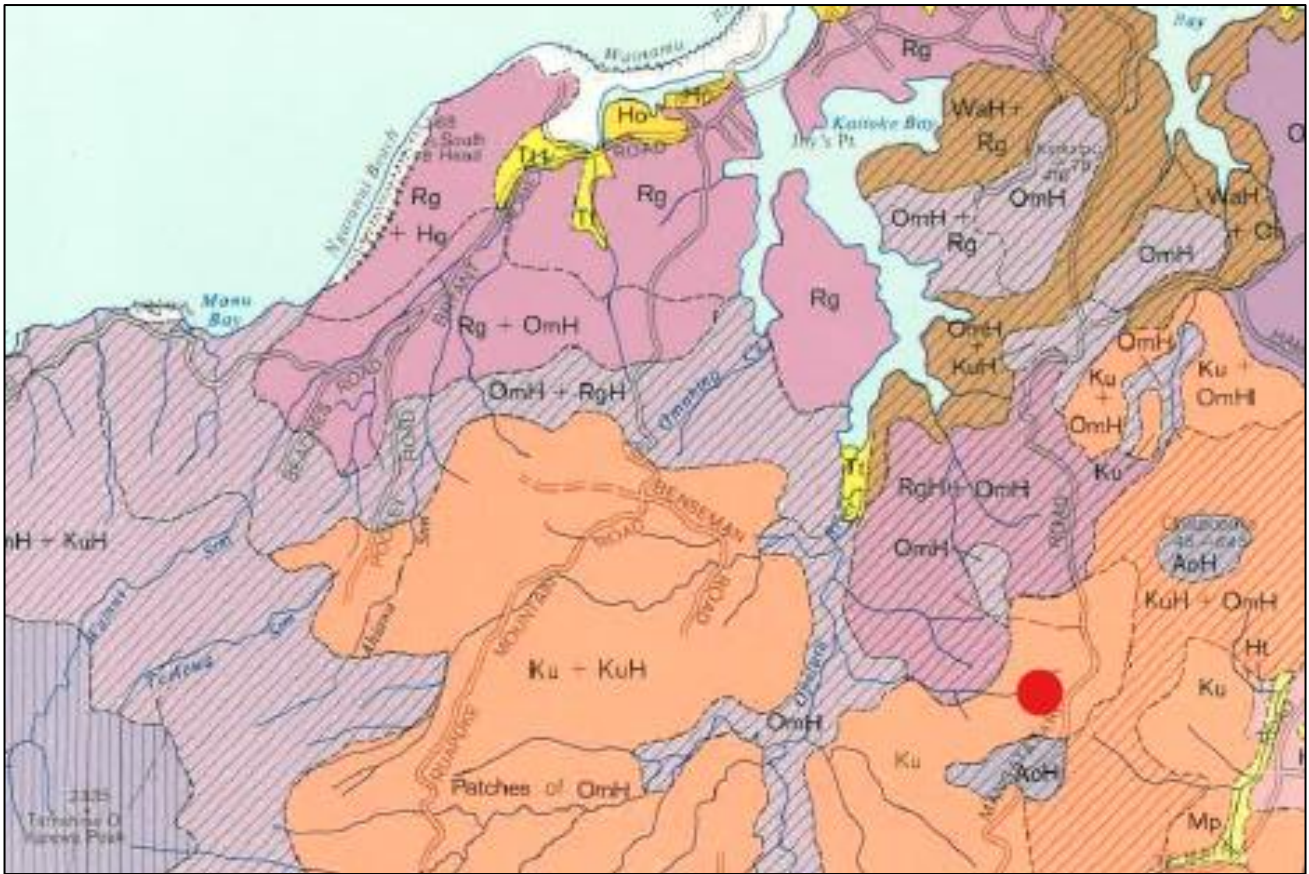


Image 3: Raglan soil maps showing indicative capable soils – clays in purple/brown locations can lessen the hydraulic capability

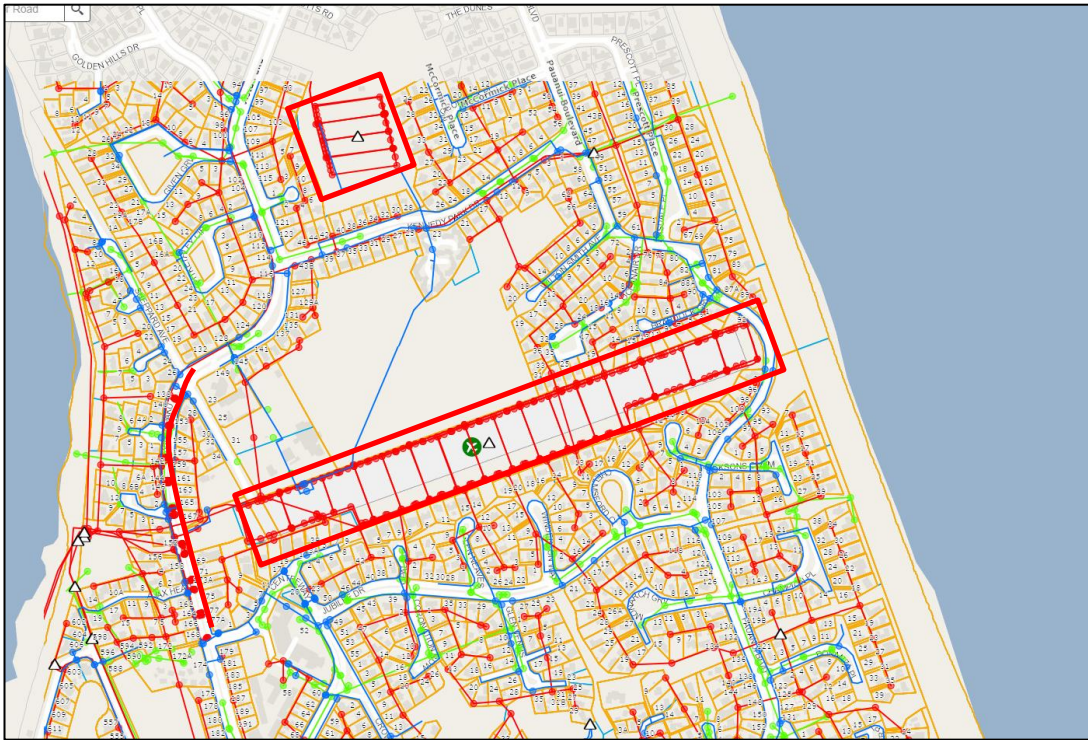
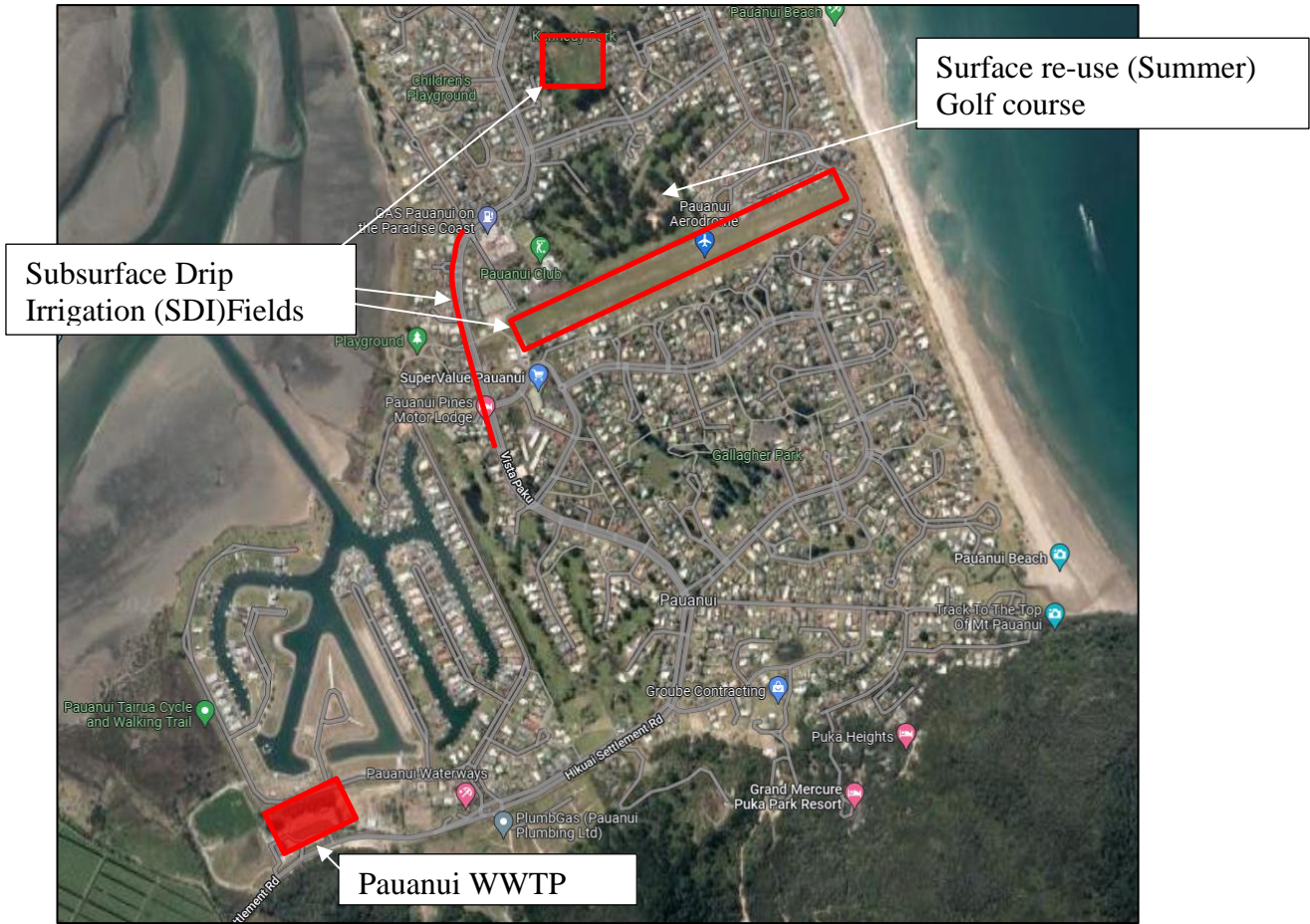


Image 4&5 NZ example of SDI – Pauanui Map

## **Raglan Wastewater Consent Project**

### **Project Objectives**

The aim of the project is to identify the best practicable option to provide wastewater services for the Whāingaroa community. In doing this we aim to:

- Keep communities healthy
- Protect the environment, particularly the water quality and ecology of the Whāingaroa Harbour
- Recognise the significance of the Whāingaroa Harbour to hapū and support the kaitiaki management of customary fishing
- Protect the community use of the area, along with the visitor experience
- Work in partnership with the community and hapū
- Retain flexibility for future, sustainable, long-term solutions including potential reuse of treated wastewater
- Keep the overall costs of the wastewater solution to affordable levels

Image 6: Consenting Project Objectives