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ref: Todd/22930

24 May 2022

Kapiti Coast District Council

Attention: Sarah Banks

Dear Sarah

RM220070 – REDUCTION IN WATER TANKS AT 240 KAPITI ROAD, PARAPARAUMU

This report has been prepared to support an application to not comply with the permitted activity standard to provide a 10,000 litre water tank for each site in regard to the 139 lot townhouse subdivision and land use consent at 240 Kapiti Road, Paraparaumu.

The restricted discretionary activity standard (INF-MENU-R28) requires the following standards to be met:

1. An assessment that demonstrates the system proposed will permanently reduce water demand associated with the household unit(s) by at least 30% from Household 2007 summer average water use (defined as 1,560 litres per household per day).
2. The provision of a non-potable supply for all outdoor uses associated with the household unit, including garden irrigation.
3. Provision must be made to ensure that no outdoor taps can be connected to the potable public water supply.

Reduction in Water Demand

Each lot will have a water meter and water use will be charged. Water meters were introduced after the assessment of the *2007 Household summer average water use* was made and it has significantly reduced water demand. We understand it has been established and accepted by Council that water use in Kapiti has been reduced by 25% due to metering.

Achieving a Further 5% Reduction

Outdoor water use makes up 22% of water consumption during the summer period and 6% of water consumption in winter periods (Heinrich, May 2008). The proposed townhouses do not have outdoor areas or gardens within each lot that require outdoor water use. On that basis each lot will achieve a further reduction of water use by 6-22% ranging from winter to summer use.

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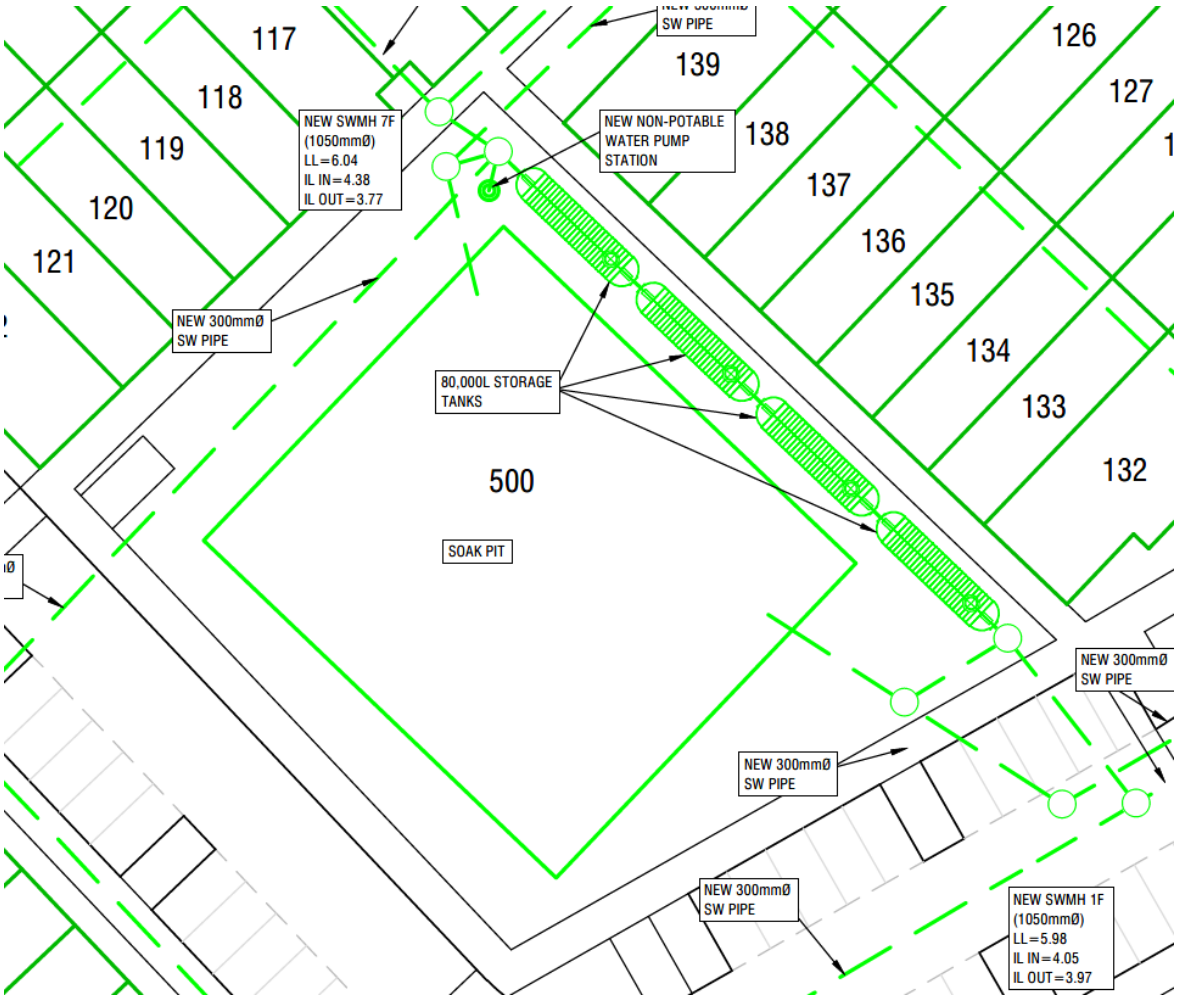
Communal Tank

We acknowledge however that there is a communal area of land that requires outdoor water use and that area comprises 750m² of gardens and 1,275m² of park area. We have sought professional advice on the volume of water required to adequately address the irrigation of the communal gardens and park, see attached report by Fluid Engineering.

Communal water storage of 80m³ is recommended for outdoor water use and it is proposed to achieve this with buried storage tanks around the proposed park land. The indicative location of these tanks are noted below. Detailed design will confirm the configuration and size of the tanks to ensure a total volume of 80,000 litres is provided on site.



The tanks are proposed to be filled by the roof water only from Lots 1-23 and 37-139. The roof area from Lots 24-36 and the roading network will be directed into the soakage system. The overflow from the tanks will be connected to the proposed soakage system. A stormwater pump will be provided to get water out of the tanks and into an irrigation system and to provide water to the refuse areas.

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Communal Tank versus Individual Tanks

We consider the communal tank to be a suitable solution to address outdoor water use demands. The alternative solution to have 139 individual tanks with 139 individual pumps is not a sustainable or sensible long-term solution for medium density housing such as this.

Building Washing

In the absence of individual outdoor taps for each townhouse, building wash will be undertaken with use of water from the communal tank. If there is insufficient water in the communal tank, then water will be purchased and made available for building washing.

Management and Maintenance

The development is governed by a Residents Society in which rules will be in place to ensure water is managed appropriately and water is available for use when required. The communal tank will be monitored and in periods of dry weather if it is necessary to top up the water tank this will be arranged by the Residents Society with the purchase of water tankers of water as required. Building washing will be arranged to be completed during water months when the demand on water is less and the tanks will be regularly topped up with rainfall. If necessary the Residents Society will arrange the tanks to be topped up if there is a shortfall of water in summer or at the time of building washing.

Yours sincerely

Nicola Todd
Director
CUTTRISS CONSULTANTS LTD

Enc.

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Fluid Engineering Consultancy Ltd
1/6 Hynds Road
Tauranga, 3112

Date: 23.05.2022
Job Number: FHD882
Project: 240 Kapiti Road

Attention: Nicola Todd

This report has been prepared to support an application to not comply with the permitted activity standard to provide a 10,000-litre water tank for each site regarding the 139-lot townhouse subdivision and land use consent at 240 Kapiti Road, Paraparaumu.

We have based the calculations on the following assumptions:

- The lawn and garden areas will need 5L per M2 of watering per day to maintain healthy colour as per Y*ates Lawn Care Recommendations*[1]
- October – March will provide average 72mm of rain per month *based on (NIWA, Publications, Rainfall 3 months – East North Island)*[2]
- Total catchment area of 4800m2
- 345,560L/month total water catchment
- 11,520L/day total water catchment
- Total lawn and garden area of 2025m2

With the information provided we recommend the following:

- 15 days watering per month. This would use 151,875L/month
- Two weeks or 80m3 of storage to be held on site. This can be via 2-4 Promax tanks or similar

In conclusion, we believe the two weeks of storage will provide sufficient water to keep the grounds in good condition in between rain during the summer months.

Kind Regards,

Kieran Rutherford
Senior Hydraulic Engineer

[1] https://www.yates.co.nz/lawn/grow/watering-tips/

[2] https://niwa.co.nz/climate/information-and-resources/whats-average-in-my-region