BEFORE A HEARING COMMISSIONER
APPOINTED BY KĀPITI COAST DISTRICT COUNCIL

Under the	of the Resource Management Act 1991
And	
In the matter	of an application for resource consent by Gresham Trustee Limited under section 88 of the Act, to undertake a 302-lot fee simple subdivision, the construction of 135 dwellings, and associated earthworks at 240 Kāpiti Road, Paraparaumu.

STATEMENT OF EVIDENCE OF NICOLA KATE TODD ON BEHALF OF THE APPLICANT

Dated: 26 October 2022

INTRODUCTION

1. My name is **Nicola Kate Todd.**

2. I am a Licensed Cadastral Surveyor and a Director of Cuttriss Consultants Ltd ('Cuttriss').

3. I hold a Bachelor of Surveying (Hons) from University of Otago, which I gained in 2001. I am a member of Survey and Spatial New Zealand and a member of Consulting Surveyors of New Zealand.

4. I have worked on the Kapiti Coast for over 20 years. During this time, I have accumulated extensive local land development knowledge. While I am a Licensed Cadastral Surveyor, I work across all three of the disciplines in which Cuttriss has expertise (land surveying, civil engineering and resource management planning).

Code of conduct

5. I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2014. This assessment has been prepared in compliance with that Code, as if it were evidence being given in Environment Court proceedings. Unless I state otherwise, this assessment is within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Background and role

6. Gresham Trust approached Cuttriss to provide planning, civil engineering and surveying expertise with respect to the proposed medium density development at 240 Kapiti Road in 2021. I have worked on the project as a project manager and have overseen the preparation of all documentation prepared by Cuttriss for this development.

7. I prepared a water tank reduction report submitted as part of the section 92 further information request.

8. I have read the Council officer's Section 42A report.

Purpose and scope of the evidence

9. I have been asked to present my views with respect to the suitability of the proposed water re-use system.

EXECUTIVE SUMMARY

10. Cuttriss have prepared and submitted a report supporting the reduction in the requirement to supply 10,000 litre water re-use tanks for each dwelling.

11. An alternative solution to the permitted activity standards has been provided to support the provision of a communal non-potable water supply.

12. The actual demand on the wider network of using potable water supply for indoor toilets is considered to be negligible at is equates to 6-8% of daily household water use as calculated in the evidence below.

WATER RE-USE

Key matters with respect to the proposed water re-use.

13. The permitted activity standards require 10,000 litres of water storage for outdoor taps and indoor toilet use for each residential dwelling.

14. The applicant proposes an alternative solution of communal tanks with a combined volume of 80,000 litres to provide irrigation to the central park and communal gardens and to supply water to outdoor taps at the refuse areas.

15. The applicant is not proposing to re-use any water on site for indoor toilet use in each dwelling, nor are they proposing to provide outdoor taps connected to the potable water supply on any dwellings.

16. The permitted activity standards were set at time when there were water shortages across the district. Subsequently water meters were installed, and Council have informed us that a reduction in water demand of 25% was achieved through water metering.

17. At this time medium density housing was not readily undertaken in the district and the standards have not been updated to make provisions for medium density housing.

18. I do not consider that the standards reflect the practical use of water for medium density housing and are out of date.

19. The water reduction report[1] sets out the justification for the volume of water (80,000 litres) to support outdoor water use including irrigation and washing of buildings required by the Building Code.

[1] Supplied with s92 further information

Anticipated Volume of Water Used by Toilets

20. BRANZ[2] provide information on toilet flushing water use and state that on average toilets are flushed 5 times per person per day. The occupancy of the dwellings has been assumed to be 2.5 people per dwelling.

21. NZS4404:2010 Land Development and Infrastructure, clause 5.3.5 Design Criteria for Wastewater recommends wastewater design is based on 2.5 to 3.5 people per dwelling. We have assumed the minimum number of people per dwelling in recognition of the lower occupancy rate anticipated by medium density housing.

22. Toilet flushing of up to 12.5 times per day is therefore anticipated.

23. A 3-star toilet system uses up to 6 litres per flush and 3 litres per half flush. Assuming 1 full flush and 4 half flushes per person per day. Expected daily water use for toilet flushing is therefore anticipated to be 45 litres per dwelling per day (2.5 x full flush (6L) and 10 x half flush (3L)).

Potential impact of use of potable water supply

24. The benefit of flushing toilets with a non-potable water supply is that it creates less demand on the potable water supply, however in times of dry weather or no rainfall, a trickle fed 'top up' is required from Council's potable water supply to ensure water is always available for indoor toilet use.

25. The small roof area of the proposed dwellings reduces the volume of water available to be captured for re-use and increases the likelihood of utilising Council's potable water supply to 'top up' supply for indoor toilet use in summer months or times of limited rainfall.

26. Average total household water use per person per day is 213 litres in winter and 292 litres in summer[3]. In a 2.5 person household this equates to 532-730 litres per dwelling.

27. Therefore the indoor toilet use demand of 45 litres will generate between 6% and 8% of the daily demand on water.

[2] https://www.branz.co.nz/sustainable-building/up-spec/water-management/
[3] https://d39d3mj7qio96p.cloudfront.net/media/documents/SR469_Residential_water_use_in_New_Zealand.pdf

28. The demand on the potable water supply amounting to 45 litres (just over 2 buckets) per dwelling is considered to have negligible impact on the wider network with additional demand of only 6-8% per household generated.

29. The effects of demand on potable water have been largely addressed by the introduction of water meters.

RESPONSE TO SUBMISSIONS

30. Ms Bloemgarten, Mr and Ms Gilden raise greywater and rainwater tanks in their submissions. Cuttriss' water reduction report addresses water re-use on site, as does the assessment provided above.

RESPONSE TO COUNCIL OFFICER'S SECTION 42A REPORT

31. Paragraph 109 states that the applicant has requested that Council is consistent in its approach with other earlier proposals (agreeing not to require stormwater disposal in accordance with Council's standards).

32. The applicant has not requested Council agree to not requiring stormwater disposal in accordance with Council's standards. The applicant has requested that Council accept water re-use that is in accordance with the restricted discretionary standards (INF-MENU-R35). The applicant recited previous consent decisions for developments which are similar in nature (medium density developments) and were granted consent by Council subject to meeting the restricted discretionary standards and the provision of appropriate conditions, none of which specified water re-use was required for indoor toilets.

33. We propose that condition 16 of Council's proposed conditions at Appendix A of the s42A report is replaced with a consent condition which comprises the following:

    (a) Installation of a minimum of 80,000L tank(s) for water re-use on site to be utilised for communal garden irrigation and dwelling washing as required.

    (b) The proposed tank(s) shall collect all roof areas within the development.

    (c) Management of the communal water supply shall be the responsibility of the resident's society.

    (d) No outdoor taps are permitted to be connected to the potable water supply.

(e) All dwellings will be fitted with water efficient plumbing fixtures which are marked as 3 stars or more under the Water Efficient Labelling Scheme.

(f) Outdoor taps at refuse areas must have signage to state that tap water is not for human consumption.

34. In my professional opinion the above conditions will manage water re-use on site appropriately and that the use of potable water supply for indoor toilets will have a negligible effect on the wider network.

Nicola Kate Todd