

**BEFORE INDEPENDENT HEARING COMMISSIONERS
APPOINTED BY THE WAIKATO DISTRICT COUNCIL**

IN THE MATTER of the Resource Management Act 1991 (**Act**)

AND

IN THE MATTER of hearing submissions and further submissions
on the Proposed Waikato District Plan.

SUBMITTER NZTE Operations Limited

Submitter [No. 823]

**SUMMARY OF EVIDENCE OF JAMES ARMITAGE ON BEHALF OF NZTE
OPERATIONS LIMITED**

(INFRASTRUCTURE)

Dated: 3 March 2021

Solicitors on Record

GREENWOOD ROCHE
SOLICITOR — FRANCELLE LUPIS

PO Box 106006, Auckland 1143
P 09 306 0495 F 04 494 8501 E francelle@greenwoodroche.com

Counsel

Dr R A MAKGILL
BARRISTER

PO Box 77-037, Mt Albert, Auckland 1350
P 09 815 6750 E robert@robertmakgill.com

INTRODUCTION

- 1 My name is James Terrance Armitage. I am a Senior Civil Project Engineer for Holmes Consulting Group. I have 19 years' civil engineering experience, including 2 years with Holmes Consulting Group.
- 2 I outlined my qualifications, experience, and commitment to comply with the Environment Court Expert Witness Code of Conduct in my Evidence in Chief dated 15 February 2021 (**EIC**).

SUMMARY OF EVIDENCE

- 3 Homes Consulting was engaged by NZTE Operations Ltd (**NZTE**) to advise on three waters matters associated with Te Kowhai Airpark Zone (**Airpark Zone**) in the proposed Waikato District Plan.
- 4 Holmes Consulting provided a Three Waters Feasibility Report and a Wastewater Recommending Report that determined:
 - (a) There are no reticulated services available within Te Kowhai Village. The nearest water supply is 2km to the east, and the nearest wastewater discharge with capacity is 5km to the east.
 - (b) Water supply for residential, commercial, and fire-fighting supply was considered for the development. Rainfall patterns indicate that the development can be supplied with little to no supplemental supply required. Fire-fighting storage tanks can be positioned to meet requirements in SNZ PAS4509:2008. This system can be easily converted to utilise a reticulated water supply in the future if one becomes available.
 - (c) Wastewater treatment and disposal can be met on-site in accordance with AS/NZS 1547:2012. A high level of treatment can be provided utilising individual septic tanks, a packed-bed reactor, and dispersal to ground using conventional trenches. If public wastewater reticulation were to become available, the system could discharge to that network with minor reconfiguration.

(d) Stormwater soakage to ground is feasible on-site. Due to high winter groundwater levels, a storage solution may be required. As roof water will be collected for water and fire-fighting supply, any requirements for storage will be minimised.

5 Four submissions included comments on issues associated with infrastructure:

(a) Submission 378.5 from Fire and Emergency New Zealand (**FENZ**) requests adequate firefighting water storage for all residences, and all commercial and industrial uses. The static supplies proposed will meet the requirements as requested in the FENZ submission.

(b) Submission 602.33 from Grieg Metcalfe looks to allow for greater density of development when private wastewater networks are available. I agree that density should not only be enabled by publicly owned wastewater networks.

(c) Submission 697.48 from Waikato Regional Council requests the ability for sites to be connected to public wastewater networks if they become available, and conditions requiring sufficiency of supply for firefighting. Both of these requests can be accommodated in the proposed strategy.

(d) Submission 606.13 from Bill Wasley requests limits to growth in Te Kowhai until adequate infrastructure is available. The proposed wastewater and water solutions are scalable. Any future growth would be suitably designed and consented, ensuring the relevant conditions are met.

6 My comments on the Section 42A report were as follows:

(a) With regard to smaller lot sizes, there are feasible solutions that do not require a reticulated water supply. Rainfall data indicates that the minimum roof area to generate sufficient supply is achievable on the smaller lots.

(b) With regard to firefighting supply, SNZ PAS4509:2008 allows for alternative water supplies for firefighting. Combined community

firefighting tanks are used in non-reticulated areas around New Zealand and are acceptable for the Airpark development.

- (c) Requiring a private reticulated water supply will add significant cost to the development and will require the developer to become a water supplier under the current water reforms. This will add cost and complexity that is not required to meet the relevant design standards.

CONCLUSION

7 The infrastructure strategy will enable the proposed land use and density of the development. In this regard, I conclude:

- (a) The water supply solution will provide for adequate firefighting storage, potable use, and can be connected to any future public water supply.
- (b) The wastewater solution is suitable for the development, will meet the requirements of AS/NZS1547:2012, and can be connected to any future public reticulation system.
- (c) The required consent from Waikato Regional Council for the system will ensure consideration of environmental effects at the detailed design state.
- (d) The stormwater solution is feasible for the development.

James Armitage

3 March 2021