

IN THE MATTER of the Resource Management Act 1991 ("RMA" or "the Act")

AND

IN THE MATTER of a submission in respect of the **PROPOSED WAIKATO DISTRICT PLAN** by **KIRRIMUIR TRUSTEE LIMITED** pursuant to Clause 6 of Schedule 1 of the Act

STATEMENT OF EVIDENCE BENJAMIN THOMAS FRASER PAIN

1. INTRODUCTION

1.1 My name is Benjamin Thomas Fraser Pain. I am an associate engineer at Wood & Partners Consultants Limited.

Qualifications and experience

1.2 I have a Bachelor of Engineering (Civil) from the University of Auckland (2008). I am a Chartered Professional Engineer (CPEng), an International Professional Engineer (IntPE), and a Chartered Member of Engineering NZ (CMEngNZ).

1.3 I have 12 years' experience in civil engineering, specifically for greenfield land development. I specialise in Three Water infrastructure projects such pump stations, bulk mains and wetlands, roading geometric and pavement design, earthworks and erosion & sediment control design for multi-staged master-planned developments through to small subdivisions.

1.4 Examples of my recent experience relevant to this project are:

- (a) Weiti Bay Development – Assessments for servicing of wastewater and water supply for a proposed 1200 lot residential and commercial development, located in north Auckland.
- (b) Sleepyhead Estate Development – Assessment for servicing of wastewater and water supply for a proposed mixed industrial and residential development located in north Waikato.

- (c) Paerata Rise Development – Assessments for servicing of wastewater and water supply for a proposed 1200 lot residential and commercial development, located in north Auckland. Design and construction supervision of the bulk water and wastewater infrastructure including pump stations, transmission pipelines and reservoir.

1.5 I have undertaken water and wastewater infrastructure works on the following other projects:

- (a) Long Bay Development – Awaruku Wastewater Tunnel and Pump Station Projects – design and construction observation for the 2100mm dia wastewater conveyance and storage tunnel and pump station sized for 2500 lots.
- (b) Hunua Views – Wastewater Pump Station Project – design and construction observation for the vacuum wastewater pump station sized for 1000 lots.
- (c) Milldale Wastewater Pump Station – design and construction observation of the pump station sized for 350 lots and upgradeable to 1200 lots.
- (d) Hayfield Way Wastewater Master Planning and Pump Station D Project – master planning for development and design of one of the pump stations.
- (e) Wastewater Catchment Design for Karepiro Development, Stanmore Bay – design of the wastewater servicing and contribution to public upgrades.
- (f) Westhills Development – design and construction observation of the wastewater pump station to service first 150 lots.
- (g) Three Kings Quarry Development – concept & detailed design for the wastewater pump station.

Involvement in project

1.6 Woods was engaged by Kirriemuir Trustee Limited (“KTL”) to complete a 3 Waters assessment to support the rezoning application for several properties located on Geraghty’s Rd, Tuakau.

1.7 I am familiar with the proposed site and have undertaken preliminary reviews and catchment analysis for the servicing of the water and wastewater infrastructure.

1.8 I last visited the site on 9th December 2020.

Purpose and scope of evidence

1.9 The purpose of my evidence is to provide an overview on water and wastewater servicing for the proposed development. My evidence does not draw conclusions how this will be serviced, it outlines that it can be serviced utilising the existing and proposed public infrastructure upgrades.

1.10 Specifically, my evidence will:

- (a) Briefly describe the site (Section 3)
- (b) Outline anticipated water and wastewater demands (Section 4)
- (c) Review existing reporting undertaken on the site (Section 5)
- (d) Discuss outcomes of engagement with stakeholders (Section 6)
- (e) Comment on existing bulk infrastructure capacity (Section 7)
- (f) Comment on the Council Officer's s42A Report (Section 8).
- (g) Provide a brief conclusion (Section 9).

1.11 A summary of my evidence is contained in Section 2.

1.12 My evidence should be read together with the evidence of:

- (a) Kelvin Norgrove
- (b) John Olliver
- (c) Siva Balachandran

Expert Witness Code of Conduct

1.13 I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court Consolidated Practice Note (2014) and I agree to comply with it. I can confirm that the issues addressed in this statement are within my area of expertise and that in preparing my evidence I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2. **SUMMARY OF EVIDENCE**

2.1 The proposed KTL site located at 12-76 Geraghty's Road, Tuakau can be serviced for water supply and wastewater as part of the proposed rezoning. The proposed development demands of less than 2MLD and the works involved to service this site are minor in comparison to other areas being rezoned at Tuakau. There are both ultimate and interim solutions for servicing the site until the new and upgraded infrastructure is completed.

3. **Site Description**

3.1 The Kirriemuir Trustee Ltd site is located at 12-76 Geraghty's Road, Tuakau on the western side of the road. The site is approximately 38 Ha, of which approximately 10 Ha is contained in open space.

3.2 The development yield is anticipated to be in the order of 425 lots based on a typical lot size of 450-600m².

3.3 Servicing within the site may require the construction of transmission infrastructure, including pump stations and reservoirs, in order to connect to the existing and proposed public networks.

3.4 Based on consultation as outlined in Section 6 below and information within the evidence of Mr Kevin Norgrove, the site shall be required to connect to:

(a) Ultimately the upgraded water supply network at Buckland Road to the north of the site, with some interim capacity utilising the existing water supply network on Geraghty's Road until the ultimate solution is completed.

(b) Ultimately the newly constructed wastewater interceptor (or network of) via a rising main from a new pumping station within the site, with some interim capacity at the public Geraghty's Road Wastewater Pump Station.

4. **Water & Wastewater Demands**

4.1 I have undertaken preliminary demand calculations for the water demand and wastewater flows based on Watercare Services Code of Practice as the area is under Watercare Waikato and connects to Watercare bulk networks. The results of this are:

(a) Average Daily Water Demand (ADD) of 0.28 million litres per day (MLD)

- (b) Peak Daily Water Demand (PDD) of 0.56 MLD
- (c) Average Dry Weather Wastewater Flows (ADWF) of 0.23 MLD
- (d) Peak Wet Weather Wastewater Flows (PWWF) of 1.54 MLD

Development		Water Supply		Wastewater	
Lots	Pop.	ADD (ml/d)	PDD (ml/d)	ADWF (ml/d)	PWWF (ml/d)
425	1275	0.28	0.56	0.23	1.54

Table 1: Summary of Development Demands

4.2 The proposed flows of less than 2 MLD is minor in comparison to the other proposed development as part of rezoning at Tuakau and capacities of the treatment plants.

5. Reporting By Others

5.1 I have reviewed previous reporting undertaken by BECA Ltd titled "Tuakau Structure Plan: Water & Wastewater Technical Assessment" dated 29 August 2014.

5.2 This report includes a Waikato District Council Structure Plan which shows the KTL site as low density residential.

5.3 This report outlines that to support future development in Tuakau, that a 200mm dia pipeline network will be required, and a future 300mm dia pipeline from the supply point to the service reservoirs will be required should by-pass of the reservoirs be required.

5.4 For wastewater, this report outlines that six new and existing pump stations shall be required at the low points and shall eventually pump into the new Watercare Pukekohe Interceptor. Currently the pump stations pump into a Watercare trunk main able to convey all but future wet weather flows.

5.5 Beca's report shows that the subject site was considered to be similar to the other growth areas outlined in Tuakau.

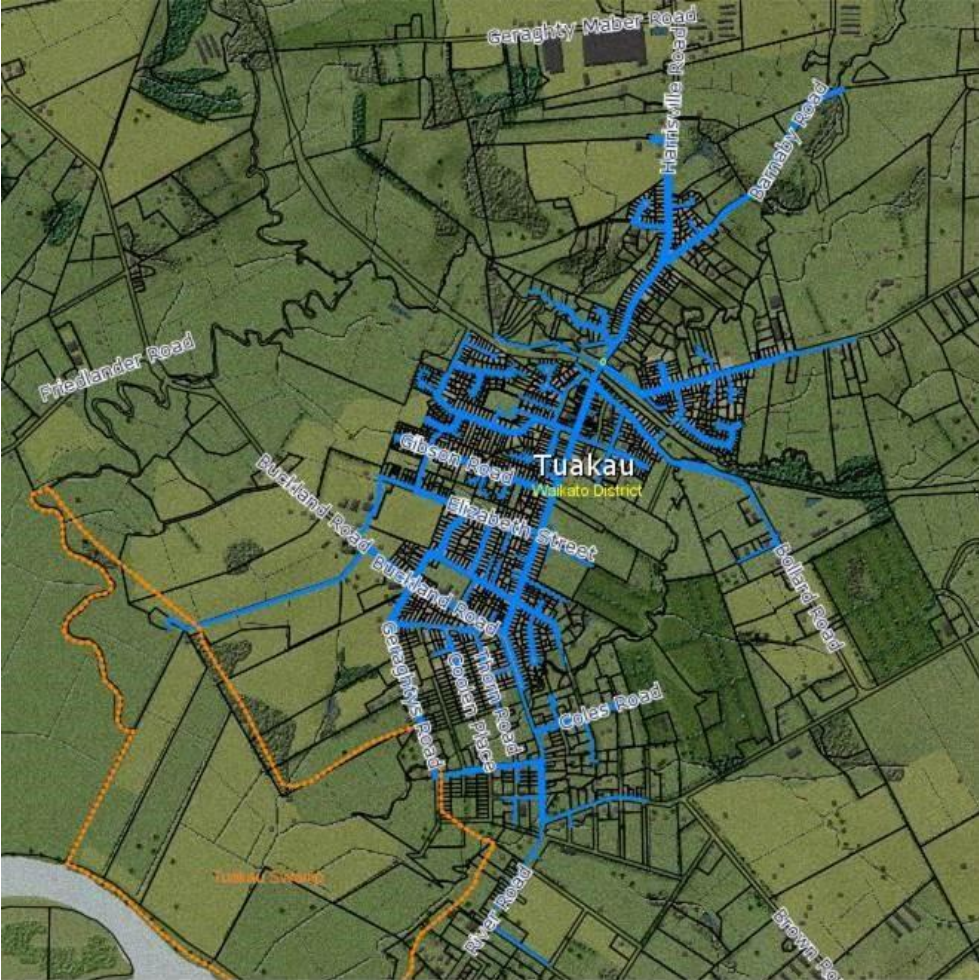
6. **Stakeholder Engagement**

- 6.1 I undertook stakeholder engagement with Waikato District Council/Watercare Waikato representatives Mr Richard Pullar and Ms Pearl McFall.
- 6.2 They confirmed there is no current servicing strategy in place for water supply for Tuakau, however the draft Council Long Term Plan includes for upgrades which include a 200mm dia pipeline network and a new Tuakau South Reservoir. These will be required in order to support development at the Geraghty's Road location.
- 6.3 They also confirmed that Watercare Services Ltd have allowed for meeting Waikato District Council's growth requirements of Tuakau, however this does not consider individual developments. A proposed new transmission pump station and wastewater interceptor pipeline is proposed in the draft Long Term Plan and would be sufficient to service this development, however this is yet to be confirmed by Waikato District Council.
- 6.4 They also confirmed that partial development could be supported by interim solutions including partial commissioning of the 200mm dia watermain and use of a temporary connection to the existing Geraghty's Road wastewater pumping station.
- 6.5 They provided a copy of the "Tuakau Water Supply Master Plan" dated 2015 that outlined the partial development of the Geraghty's Road site, bulk 200mm dia pipeline network and southern reservoir. They noted that this was also considered a draft document.
- 6.6 As the Long Term Plans and servicing strategies are currently draft, there should not be any issues with including the proposed KTL site into these plans. The site is located adjacent to the proposed upgrade areas and does not require as extensive infrastructure to be constructed to connect to this compared to some other areas proposed to be rezoned at Tuakau .

7. **Infrastructure Capacity**

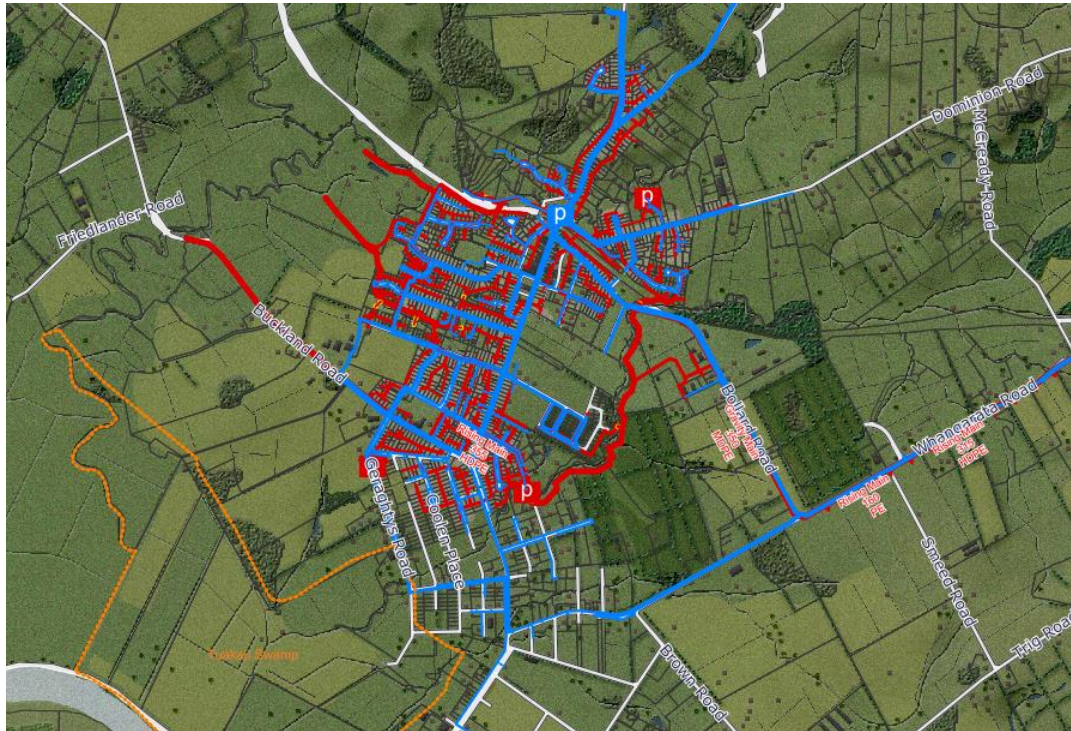
- 7.1 In order to consider infrastructure capacity information on current plans for water and wastewater services in Tuakau have been sourced from Waikato District Council (and Watercare Services Ltd which manages the Waikato District Council's water and wastewater reticulation network in Tuakau) (refer Figures 1 and 2).

Figure 1: Location Plan of the Tuakau Water Supply Network



Source: Waikato District Council February 2018 Tuakau and Pokeno Water Safety Plan

Figure 2: Location Plan of the Tuakau Wastewater Network (shown in red)



Source: WDC Intramaps¹

- 7.2 There appears to be no constraint on bulk water supply other than the requirement for upgraded pipe sizes within the existing network to 200mm diameter. There is no specific cap on the volume or duration of water supplied by Watercare via its metered bulk main at 296a Whangarata Road². Watercare's Statement of Intent 2020-23³ also indicates that expansion of the Tuakau Water Treatment Plant has been completed (to cater for 175 MLD, up from 150 MLD previously) and a further Stage 2 expansion awaits consenting of additional water take from the Waikato River, but an alternative option is being considered that will allow early construction of a new plant to cope with high growth being experienced in the Tuakau catchment area.
- 7.3 Upgrades to the Pukekohe Wastewater Treatment Plant are also due to be completed by 2021. Future development in Tuakau will therefore be unlikely to be constrained from access to Watercare's bulk water and wastewater services, but it will still be dependent on extensions and upgrades to the

¹ <https://maps.waikatodistrict.govt.nz/IntraMaps97/?project=Waikato&configId=b2549ae1-f643-4ac6-9586-211ba985dd8f>

² Refer Waikato District Council February 2018 Tuakau and Pokeno Water Safety Plan.

³ Refer https://infocouncil.aucklandcouncil.govt.nz/Open/2020/06/GB_20200625_AGN_9602_AT_SUP.PDF

Council's water and wastewater reticulation infrastructure (pump stations, reservoirs, interceptors etc.) and the main roading network.

8. **Section 42A Report**

8.1 I have reviewed Waikato District Council's Hearing 25 Zone Extents Framework Report dated 19 January 2021.

8.2 Clauses 288 to 298 outline the requirements for connection into the public network for water and wastewater. For the KTL site, it is anticipated that connection to the public network will be made and the contribution for network upgrades and cost share for new infrastructure shall be agreed as part of a development agreement.

8.3 Appendix 5 indicates timing of proposed upgrades to the water and wastewater networks. The table indicates works closest to the KTL site at Dromgools Road and Town Centre will be undertaken between 2020-2023 and 2023-2030 respectively.

9. **CONCLUSIONS**

9.1 My evidence outlines that the proposed rezoning for development at the Geraghty's Road site can be serviced in the long term for water supply and wastewater, and can be built into future Long Term Plans.

9.2 Interim solutions are also available for partial development until the wider water and wastewater servicing is commissioned.

9.3 There appears to be no constraints on connections to bulk infrastructure.

Ben Pain
16 February 2021