

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

SUMMARY STATEMENT OF AJAY DESAI ON BEHALF OF KIRRIEMUIR TRUSTEE LTD

Involvement in project

- 1.1 My full name is Ajay Desai. I am a Senior Associate – Three Waters at Wood and Partners Consultants Limited ("Woods"). I prepared a statement of evidence dated 12 February 2020. The purpose of this document is to summarise that statement.
- 1.2 I outlined my qualifications, experience and commitment to comply with the Environment Court Expert Witness code of Conduct in my evidence in chief ("EIC"). I am now a Chartered Engineer with Engineering New Zealand (CPng, IntPE (NZ), CMEngNZ).
- 1.3 Woods has been engaged by Kirriemuir Trustee Limited ("KTL") to complete a preliminary stormwater assessment to support the rezoning application for several sites to the west of Tuakau on Geraghtys Rd, from Rural to Residential zoning.
- 1.4 I was Stormwater Engineer leading the stormwater management and flooding work for the client which involved working collaboratively with Waikato Regional Council ("WRC") technical representatives to discuss and agree on the key assumptions and decisions required.

2. SUMMARY OF EVIDENCE

- 2.1 Stormwater from the KTL site drains to an unnamed local stream which discharges to Kairoa Stream which is approximately 200m to the south of

the site. The Kairoa Stream discharges to the Waikato River which is approximately 1km to the south west of the site.

- 2.2 The KTL site is covered by the draft Catchment Management Plan (CMP) developed by Tonkin and Taylor (2014) to support the Tuakau Structure Planning process. This CMP sets out the Flood Hazard Management and Stormwater Management Plan approach to be adopted for any proposed development within Tuakau.

3. **STORMWATER MANAGEMENT**

- 3.1 A review of the statutory framework, relevant stormwater guidelines and policies was carried out to inform the appropriate stormwater requirements.
- 3.2 A treatment train approach is proposed to be adopted in order to meet the water quality and erosion control requirements for discharges to a river environment outlined in Waikato Regional Council ("WRC") document TR2018/01 for development within any of the stormwater management zones.
- 3.3 While the Site does not discharge directly to the Waikato River, the Vision and Strategy will be considered as part of stormwater management given that Kairoa Stream ultimately forms part of the Waikato River's significant catchment.
- 3.4 Water quality treatment is proposed for all trafficked areas including roads, parking areas and driveways. The treatment train approach involves at least two devices prior to discharge to the receiving environment and can be comprised of at-source treatment options and use of communal devices. Inert cladding and roofing materials are recommended.
- 3.5 A stormwater management toolbox has been prepared as detailed in my evidence which provides options for devices that can be utilised within the development.
- 3.6 Extended detention / volume control criteria are required for discharges to a stream environment to manage erosion and scour of natural stream/watercourses which will be discussed and adopted in consultation with WRC.
- 3.7 Volume reduction is proposed through re-use from roof runoff. The strategy can adopt a naturalised interface through inclusion of the existing ponds.

3.8 The stormwater management will be adopted to give effect to the NPSFM to improve the water quality to the receiving environment by reducing nitrogen and phosphorus from stormwater runoff. The treatment train approach will ensure that discharges from the site will not have any effects on the health of people and communities as affected by their secondary contact with freshwater nor on the mauri (life supporting capacity) of the downstream environment.

3.9 All Stormwater management matters are to be considered under a Best Practicable Option (BPO) approach to prevent or minimise any environmental effects.

4. **FLOOD MANAGEMENT**

4.1 Flood assessment has been undertaken by WRC using Mike by DHI modelling package for Waikato River to define the 1% AEP flood extents. These are provided in WRC's Hazard portal and covers the Tuakau Swamp to the west of the site under the Flood Management Area overlay in the Proposed Waikato District Plan.

4.2 Flood assessment undertaken by WDC as a part of the Catchment Management Planning and Tuakau Structure Planning process provides the flood extents for the Kairoa Stream and all its tributaries.

4.3 The proposed structure plan designates the flood areas as indicative open space network with no development proposed within the 1% AEP Floodplain. Flood attenuation may not be required for discharges as there is no downstream flood risk identified within the Kairoa Stream or Tuakau Swamp.

4.4 The proposed development footprint will be further refined and finalised in consultation with WRC and WDC with any new recent information made available at detailed design and subsequent consenting stage.

5. **CONSULTATION WITH WAIKATO REGIONAL COUNCIL**

5.1 Initial feedback has been sought from the WRC Land Drainage team and close coordination is planned with WRC team at various stages of the development of the appropriate stormwater management for the KTL site.

5.2 I have reviewed the Section 42A Report prepared by WDC and there are no concerns identified that would preclude this zone change.

Ajay Desai
14 June 2021