

## **Before an Expert Consenting Panel**

**Under** the COVID-19 Recovery (Fast-track Consenting) Act 2020 (CRA)

**In the matter of** an application by Pudong Housing Development Company Ltd, Foodstuffs North Island Ltd, and Silk Road Management Ltd for land-use and subdivision consent for the demolition of existing buildings and redevelopment of the site including a supermarket, retail, commercial and residential units, parking and loading at 360 Dominion Road, 88 Prospect Terrace and 113 Grange Road, Mt Eden, Auckland.

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**Evidence of Duncan Thomson on behalf of Pudong Housing Development Company Ltd, Foodstuffs North Island Ltd, and Silk Road Management Ltd**

**Date:** 23 June 2021

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## **QUALIFICATIONS AND EXPERIENCE**

- 1 My name is Duncan Michael Thomson, and I am the Civil Infrastructure Team Leader (Auckland) for Robert Bird Group (“**RBG**”).
- 2 RBG are the Civils Design Lead on this Project, retained by Foodstuffs North Island Ltd (FSNI) as the client.
- 3 My experience spans 24 years in the industry, and I have a wide range of expertise and experience in civil engineering design. Qualifications include a Bachelor of Engineering (Honours) from the University of Wales.
- 4 For the last eight years I have been designing Land Development projects within the Auckland Region, and I have a detailed knowledge of stormwater strategy development and design, including attenuation and water quality assessments necessary to assure local and regional resource consents and stormwater discharge conditions.
- 5 I am familiar with this application to construct and operate a mixed-use development at 360 Dominion Road, 88 Prospect Terrace and 113 Grange Road, Auckland (“**Site**”).

## **CODE OF CONDUCT**

- 6 Although these proceedings are not before the Environment Court, I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note and agree to comply with it as if these proceedings were before the Court. Except where I am relying on evidence of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

## SCOPE OF EVIDENCE

- 7 This evidence responds to specific Stormwater engineering issues raised in comments by the various submitters on the application for the proposed development. In particular, the evidence responds to the following:
- 7.1 Asset Owner / Specialist Response, Sarah Jaff, Principal Development Planner, Auckland Transport, dated 16th June 2021 (*Auckland Transport*);
  - 7.2 Asset Owner / Specialist Response, Mark Iszard, Growth & Development Manager, Healthy Waters Council, dated 9th June 2021 (*Auckland Council*);
  - 7.3 Asset Owner / Specialist Response, Matthew Revill, Principal Project Manager, Regulatory Engineer, dated 15th June 2021 (*Auckland Council*); and
  - 7.4 Asset Owner / Specialist Response, Arsini Hanna, Senior Specialist, Stormwater Wastewater & Industrial and Trade Activities, dated 31st May 2021 (*Auckland Council*).
- 8 This evidence makes reference to the Ewaters Flood Assessment Report, dated 5<sup>th</sup> March 2021, which forms part of the original application and on which I have relied in forming my professional opinions. The Ewaters Report is an extensive document which contains information regarding the base case conditions and potential flooding issues on and in the vicinity of the Site. Ewaters' conclusions regarding the flood conditions around the Site differ from those detailed in the Council's flood maps but, in my opinion, reflect a more focused and finely grained consideration and assessment.

## RESPONSE TO SUBMISSIONS

### Sarah Jaff , Auckland Transport

- 9 The Auckland Transport (“**AT**”) submission has raised concerns about Asset ownership, noting that private assets in the road corridor is problematic in terms of clear delineation of asset management responsibility:
- 9.1 I note that the proposed Over Land Flow Path (“**OLFP**”) culvert and inlet / outlet structures are conveying external OLFP flows (i.e.: flows that are sourced upstream of the Site). They are not addressing private stormwater management as is inferred by AT. These external OLFP flows currently flow through the Site and on to Dominion Road, and ultimately need to be managed within the AT drainage network. Refer to EWaters Flood Assessment Report (Appendix 15a to the AEE) for further details regarding the existing flood conditions.
- 9.2 Notwithstanding that, I agree that asset ownership should be agreed and clearly delineated, and responsibilities for maintenance need to be clearly defined. It is recommended that the proposed outlet pits within Dominion Rd corridor are vested to AT and treated like other similar maxi-pits in the AT drainage network, thus providing flexibility to AT as to their configuration.
- 10 The AT submission has raised concerns that Operation & Maintenance (“**O&M**”) requirements for structures in the road corridor could impact Dominion Road. The outlet pits are envisaged to be maxi-pits with large lintels or grated channels with dimensions sufficient to produce acceptable discharge velocities. Maintenance is expected to be similar to other drainage catchpits in the road corridor, with inspections and hydrovac of debris and

sediment at defined frequencies. As with any maintenance of stormwater drainage assets in the road corridor, we would expect the O&M regime to be managed to avoid impacting with peak traffic.

11 The AT submission also raised concerns on the potential hydraulic / flood hazard impacts localised at the discharge outlets on Dominion Rd:

11.1 It is not clear if AT have reviewed the EWaters Flooding Report in conjunction with these comments. If not, we recommend that the agency review this document which details the existing modelled flood conditions, and modelled outcomes of the proposed OLFP conveyance system.

11.2 In summary, existing OLFP flows discharge through the Site to Dominion Road, and the proposed OLFP management system seeks to convey flows under the proposed development and discharge to the same approximate locations on Dominion Road, so as to mimic (as closely as possible) the existing conditions. The modelled split catchment strategy was developed in consultation with AC Healthy Waters.

11.3 The proposed OLFP management system also seeks to provide improved (reduced) flood impacts through providing greater soakage within the conveyance structures. The concept sizing for outlet structures (as modelled by EWaters) in the road corridor have also considered depth.velocity design limits as per design guidelines recommendations. These would need to be developed further in consultation with AT in future design stages to confirm site specific desired outcomes are achieved.

- 12 In my opinion, the proposed stormwater arrangements are not unusual and are consistent with the approach adopted elsewhere in the city:
- 12.1 The conveyance of stormwater through urban areas requires the cooperation of landowners, including roading authorities such as AT. Thus the Site is expected to receive, convey and discharge stormwater that enters it from upstream.
- 12.2 My expectation is that AT, as the downstream landowner, would have an interest in ensuring that the stormwater discharged to its land is dealt with appropriately.
- 12.3 Importantly, the proposal does not involve an increase in impermeable surface on the Site. The Site is already fully developed and the proposal takes advantage of the proposed redevelopment of the Site to implement what I consider to be an upgraded and improved method of conveying and discharging stormwater.

**Mark Iszard, Healthy Waters**

- 13 The Healthy Waters submission states the proposed design does not meeting the expectation for a resilient flood protection design.
- 14 It is acknowledged that piping OLFP flows is not a preferred outcome for the development as it introduces significant additional cost, however the existing flooding impacts on the property necessitate such a conveyance solution to achieve the 'split catchment' discharge strategy that Healthy Waters advised was required to be achieved by the Applicant (which is different to the flood extents and flows that are detailed in the AC flood maps). This is outlined in further detail within the EWaters Flood Report.

- 15 The OLFP conveyance system includes an upstream screened gross pollutant trap, inlet weir structure, underground offset flood storage, and conveyance culverts with multiple outlet structures, and an emergency spillway provision. It is proposed that the conveyance culvert and storage structures have permeable bases to promote infiltration to the aquifer, however infiltration (loss) has not been considered in design capacities so the design is not reliant on infiltration. These elements combined are considered to provide a robust and resilient solution for a conveyance proposal.
- 16 It is acknowledged that discharge structures in Dominion Road will need to be coordinated with AT and address existing services in the road corridor. In my experience, however, it is not uncommon for neighbouring property owners (including public authorities such as AT) to cooperate in order to ensure that potential hazards are addressed appropriately and effectively. Such cooperation appears to me to be a good example of integrated management.
- 17 Healthy Waters also state that the asset would not be suitable for vesting in Council and should remain in private ownership. I understand that the Applicant would be willing to consider the asset as remaining in private ownership.

**Matthew Revill, Development Engineer**

- 18 The AC Development Engineer has raised similar concerns as Sarah Jaff, from AT about the potential hydraulic / flood hazard impacts and has requested calculations to determine the extent of flooding. These matters are addressed in the EWaters Flood Assessment Report submitted with the application, which confirms that the current flood extent differs to that depicted on the Council's GIS system.

**Arsini Hanna, Stormwater Specialist**

- 19 The submission from Arsini Hann, Stormwater Specialist at AC, has raised concerns in relation to water quality. I have identified the following key matters and respond to these below.
- 20 The proposed development, and associated stormwater system, has limited ability to generate and collect contaminants due to the development being largely made up of roof area. A sketch showing the primary sub-catchments is **attached**. In summary, those catchments are:
- Building footprints (roof surfaces) – 8,700 m<sup>2</sup> (72%)
  - Open space to top floors – 2,220 m<sup>2</sup> (18%)
  - Landscaped / Pedestrian plaza areas – 1,100 m<sup>2</sup> (9%)
  - Vehicle Ramp Accessway - 123 m<sup>2</sup> (1%)
  - Car parking is underground
- 21 Landscaped Areas (9%) shall consist of planted zones and pedestrian paths, and are not considered to be pollutant generating areas.
- 22 Runoff from the remaining vehicle accessway catchment (1%) will be collected in the underground car park drainage system, and treated via an oil/petrol interceptor prior to detention storage and discharge to soakage. This is considered appropriate for this very small ramp catchment.
- 23 In relation to the officer’s statement that, “*Treatment in accordance with GD01 is considered best practice*”, I have previously stated that the potential for contaminants to enter the stormwater system is low and, with reference to GD01<sup>1</sup>, roof surfaces and open spaces to the top floors (which total 90% of the exposed area) shall use

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<sup>1</sup> Auckland Council’s Stormwater Management Devices Guide, December 2017.

inert building materials (i.e. with no use of copper, and/or zinc-based surfaces). Therefore, runoff from building footprint is considered to have a negligible contaminant load.

- 24 The use of sumped catch-pit and petrol/oil interceptors (Notes on drawing N0263-RBG-ZZ-XX-DR-CV-86010) is to be considered for sediment capture and spill management from underground parking areas, rather than stormwater quality treatment. These sumped catchpits are proposed to prevent vehicle borne contaminants entering the stormwater system from spills. The majority of the underground car park is not exposed to rainfall, with only a small opening for ramps having potential to generate some stormwater runoff. This runoff will be directed through oil/petrol interceptor prior to onsite detention and then discharge.
- 25 That submission states “*Clarification is required on what ‘Public Stormwater’ refers to*” which is stated as being contained in the Executive Summary of the Infrastructure Report. The Infrastructure Report makes no reference to ‘Public Stormwater’ and all site stormwater management proposals is proposed to be private and discharging to a private soakage network.

## **CONCLUSION**

- 26 In my professional opinion, stormwater management proposals are appropriate for the site and existing conditions, and provide a robust and resilient solution to the existing flood impacts currently experienced on the site.
- 27 For specific flood modelling evidence I would refer you to the EWaters Flood Report (Jess Wallace).

**Duncan Thomson**

Robert Bird Group

23 June 2021