

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

AND

IN THE MATTER of a submission by **AMBURY PROPERTIES LIMITED** in respect of the **PROPOSED WAIKATO DISTRICT PLAN** pursuant to Clause 6 of Schedule 1 of the Act seeking the rezoning of land at Ohinewai

SUMMARY STATEMENT OF PRANIL WADAN IN RESPECT OF STORMWATER IN PREPARATION FOR EXPERT CONFERENCING

1. INTRODUCTION

- 1.1 My name is Pranil Wadan. I am a stormwater engineer employed by Wood and Partners Consultants Limited (Woods). I have been advising Ambury Properties Limited in relation to stormwater engineering issues on its submission seeking a rezoning of land at Ohinewai.
- 1.2 I developed the Stormwater Management Plan to enable development of the Sleepyhead Estate at Ohinewai, and have consulted with submitters and interested parties with respect to stormwater management.
- 1.3 I will be presenting expert evidence at the hearing of the Ohinewai submissions. That evidence is due in July 2020. In the meantime, this statement has been prepared in preparation for expert conferencing in relation to stormwater that has been scheduled for the week commencing 15 June 2020 in compliance with the direction from the Hearing Panel that APL is to provide a summary of it’s position on the topics that are to be the subject of expert conferencing.

Scope of statement

- 1.4 As a basis for expert conferencing, this statement will:

- (a) Identify what I see as being the key issues for determination in relation to stormwater and set out my expert opinion on that issue and the reasons for my views (Section 2); and
- (b) Set out my core conclusions (Section 3).

Expert Witness Code of Conduct

1.5 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 statement I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2. KEY ISSUES RELEVANT TO STORMWATER AND MY OPINION ON THESE ISSUES

2.1 I have worked with Mr Olliver to identify the key issues that need to be determined in relation to stormwater. The purpose of this section is to set out the issue and then my expert opinion in relation to that issues, and the reasons for my opinion.

Regional Infrastructure Technical Specification

2.2 Is it feasible for the development of the Ohinewai Structure Plan Area to meet the level of service standards outlined in Regional Infrastructure Technical Specification section 4.1.3 for the stormwater design, including sizing of primary and secondary networks, level of treatment and volume and peak flow requirements?

2.3 In my opinion, it is feasible, for the following reasons:

- (a) The proposed development allows for the design of primary network for conveyance of 10-year ARI event (inclusive of climate change). For pipe networks this will be done without surcharge where practicable, however due to constraints (proposed landform and slope/flatness) surcharging of the pipe may be required (no overtopping of manhole).
- (b) Secondary network designed for conveyance of 100-year ARI event (inclusive of climate change). Secondary flows to be conveyed without causing undue risk or damage to persons or property.

- (c) Water quality treatment is proposed for all trafficked areas. Stormwater treatment is sized to meet 1/3rd of the 2-year 24hr ARI rainfall event.
 - (i) As the site is discharging to a lake environment a minimum 2 stage/device treatment has been adopted.
- (d) The proposed development discharges to a lake environment rather than a natural watercourse, therefore the extended detention and volume control criteria are not required, however a level of volume control will be achieved through the proposed re-use.

Treatment and discharge quality

2.4 Does the stormwater management strategy proposed for the Ohinewai Structure Plan area ensure that stormwater will be treated to an acceptable standard in accordance with the WRC consenting requirements, and to a level that improves current water quality of discharges into Lake Waikare and Lake Rotokawau, particularly in terms of nitrogen, phosphorus and total suspended solids?

2.5 In my opinion, the strategy does ensure this, for the following reasons:

- (a) Water quality treatment is proposed for all trafficked areas in all zones (residential, industrial and commercial) including roads, parking areas and driveways.
- (b) The proposed development adopts a treatment train approach of at least two devices prior to discharge to the receiving environment (Lake Rotokawau). This is comprised of at-source treatment options and use of communal areas with devices within the Central Park and Wetland Park Area.
- (c) The proposed development will result in a decrease of nutrients (nitrogen, phosphorus) due to a change in land use from dairy farming to an urban environment.
- (d) The stormwater contaminants resultant from an urban environment (total suspended solids and hydrocarbons) are managed through the treatment train approach. The treatment train approach also provides for treatment of any residual nutrients (nitrogen, phosphorus).

- (e) It is expected that this will have a benefit on the receiving environments (Lake Waikare and Lake Rotokawau).

Downstream receiving environment

2.6 Does the stormwater management strategy set out acceptable provisions so as to not adversely affect the downstream receiving environment of Lake Waikare and Lake Rotokawau?

2.7 In my opinion, it does, for the following reasons:

- (a) The stormwater management strategy adopts a multistage treatment train approach that results in treated stormwater runoff being discharged to the receiving environment.
- (b) The strategy adopts a naturalised interface through inclusion of the wetland park area that provides a diffused outlet to Lake Rotokawau.

Matauranga Maori perspective

2.8 Do the stormwater management proposals adequately acknowledge cultural issues and include a Matauranga Maori perspective?

2.9 In my opinion, they do for the following reasons:

- (i) A key aspect of matauranga Maori is that the holders of this knowledge are tangata whenua, and access to this detailed knowledge relies entirely upon consultation and engagement with these groups. I attended and presented at a Hui with the TWGG on 22 October 2019 on the proposed stormwater management framework. The framework at that time was being fine-tuned and the presentation of the concept and discussion was to seek feedback from iwi on the proposed measures. Ongoing input into the stormwater management design was sought, with suggestions around inclusion of fish and tuna (eels) into the development and general principle of ecological matters being integrated into the SMP being suggested. It is my opinion that the SMP provides for those opportunities and with the input of APL as the developer, such matters can be included in the detailed design phase.
- (b) Treating stormwater by passing it through land before it is released into receiving environments is an important prospective that is

adopted through the naturalised interface between the wetland park and Lake Rotokawau.

- (c) The stormwater approach adopts water conservation through requirement for re-use tanks. These tanks provide for water harvesting to preserve the resource and its mauri
- (d) The proposed development sets out a designated area proposed to be converted into an enhanced natural wetland that is enhanced with local flora, this is known as the wetland park area that can be used by communities.

Potential adverse effects

2.10 Do the proposed stormwater management methods address any potential adverse effects of the development?

2.11 In my opinion, they do, for the following reasons:

- (a) The stormwater management strategy meets the provisions and requirements set out in the Regional Infrastructure Technical Specification (RITS), Stormwater Management Guideline (TR2018/01), Waikato Stormwater Runoff Modelling Guidelines (TR2018/02). The strategy is also consistent with the Lake Waikare and Whangamarino Wetland Catchment Management Plan.

3. CONCLUSION

3.1 For the reasons outlined above, and as a result of my broader analysis, there is in my professional opinion no reason on the basis of stormwater why the rezoning of Ohinewai cannot be approved as proposed.

Pranil Wadan

29 May 2020