

## **SUMMARY OF EVIDENCE OF GREGORY WHYTE ON BEHALF OF MIKE GREER HOMES NZ LIMITED**

### **INTRODUCTION**

1. My Name is Gregory Whyte.
2. I prepared a statement of evidence dated 3 May 2024 and a supplementary statement of evidence dated 2 August 2024 in relation to Mike Greer Homes NZ Limited's (**Mike Greer Homes**) request to rezone approximately 14 ha of land at the southern entrance to Kaiapoi (**the Site**) from Rural Lifestyle Zone (**RLZ**) to Medium Density Residential Zone (**MRZ**) subject to an Outline Development Plan (**ODP**) (**the Proposal**)

### **SUMMARY OF MY EVIDENCE IN CHIEF**

3. The proposed flood mitigation strategy for the site is to fill to a level to ensure land to be used for housing and new buildings are above the 0.5% flood event including a 500 millimetre freeboard for new buildings.
4. Filling of the site is a robust mitigation method as it does not rely on gates or weirs or pumps to remove or control floodwater.
5. My evidence in chief demonstrated that filling the Site using the initial earthworks surface design provided by Mr Verstappen resulted in most of the land to be used for housing on the Site is above the 0.5% event.
6. However, the modelling results using the initial earthworks design also showed that:
  - (a) there are sporadic, and isolated areas of increased water level of up to 170 mm on small parts of the land to be used for housing; and
  - (b) The offsite consequence of raising the Site is an increase in flood extent along the Main North Road (**MNR**) with a maximum increase in water level of 65 mm.
7. Mitigating the increases in flood extent and water level along MNR due to the filling of the Site required further earthworks design and modelling.

### **SUMMARY OF MY SUPPLEMENTARY EVIDENCE**

12. In preparing my supplementary evidence I received improved earthworks surface design(s) from Mr Verstappen and using those designs I have undertaken further modelling investigation of the pre-development and post development flood hazard scenario under the 0.5% AEP (1 in 200 year) flood event (**0.5% event**) and under the 0.2% AEP (1 in 500 year) flood event (**0.2% event**).

- 13 The commentary, images, and conclusions in my supplementary evidence are in addition to and elaborate on the material in my statement of evidence of 5 March because they are based on revised and improved earthworks surface design and further modelling investigation completed since the filing of my statement of evidence.
- 14 The further modelling investigation using the revised earthworks surface design confirms the findings summarised in my statement of evidence dated 5 March 2024.
- 15 In addition, the further modelling investigation demonstrates that:
- (a) maximum water levels for the 0.5% flood event on the Site (where properties will be developed), will either remain the same or be reduced to RL 3.05-3.10 metres;
  - (b) maximum flood depth for the 0.5% flood event on the Site (where properties will be developed), is less than 0.2 metre, as can be seen in Figure 1. This flooding is located on the very edge of a small number of properties;
  - (c) along Main North Road for the new modelling, there is no increase in flood water levels;
  - (d) the pre-development high hazard areas on the Site for the 0.2% flood event have been reduced considerably when modelled with the proposed development surface. The majority of the Site (where properties will be developed) is no longer high hazard areas. The high hazard areas are generally confined to the roads or other parts of the Site, that will not be used for housing;
  - (e) high hazard areas surrounding the Site have not changed between pre and post development; and
  - (f) there is no measurable change in maximum flood levels for the 0.2% flood event for the Site and surrounding area due to the proposed earthworks.



Figure 1 - Water Level Difference between Pre & Post Development for a 0.5% flood event

16 In light of the further modelling investigations discussed above and based on my experience, I consider that the refined earthworks design enables the proposed rezoning to be acceptable from a flood hazard perspective.

17 Thank you again for the opportunity to present my evidence and I am happy to address any questions.

Gregory Whyte

16 August 2024