Before the Selwyn District Council

under: the Resource Management Act 1991

in the matter of: Proposed Private Plan Change 69 to the Operative District Plan: Lincoln South

and: **Rolleston Industrial Developments Limited**
Applicant

Statement of evidence of Chris Thompson (Geotechnical)

Dated: 4 November 2021

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STATEMENT OF EVIDENCE OF CHRIS THOMPSON (GEOTECHNICAL)

INTRODUCTION

1 My full name is Christopher Samuel Thompson.

2 I hold a Bachelor of Science (Technology) degree and am a member of Engineering New Zealand and the New Zealand Geotechnical Society. I have over 15 years of geotechnical consulting experience. During this time, I have held positions at Foundation Engineering Consultants (Graduate Geologist and Engineering Geologist), Balfour Beatty Ground Engineering (Contracts Engineer) and Coffey / Tetra Tech Coffey (Engineering Geologist to Associate Engineering Geologist). I have undertaken a wide range of geotechnical consulting work in New Zealand, Australia and England, including design and construction monitoring for many subdivisions and developments in the Canterbury region and across New Zealand, and also worked on large infrastructure projects at Lyttelton Port and Kawarau Falls Bridge in Queenstown. In these projects I have carried out geotechnical hazard assessments for settlement (both liquefaction induced and static) and slope stability which are relevant to this project.

3 I am familiar with the plan change application by Rolleston Industrial Developments Limited (*the Applicant*) to rezone approximately 190 hectares of land on Springs Road, Lincoln to enable approximately 2000 residential sites and a small commercial zone. I prepared the Geotechnical Assessment that was submitted as part of the Plan Change 69 application.

CODE OF CONDUCT

4 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the Code of Conduct for Expert Witnesses contained in Part 7 of the Environment Court Practice Note 2014. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise, except where relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

5 My evidence relates to:

5.1 The geotechnical aspects of the Site and existing environment.

SUMMARY

6 Rolleston Industrial Developments Ltd engaged Coffey Services (NZ) Limited (now Tetra Tech (NZ) Limited) to carry out a geotechnical investigation and assessment of suitability for the proposed Plan Change and future subdivision at 1491 Springs Road, Lincoln, Canterbury. I am the Project Manager for the geotechnical investigation and design for this site.

7 The site investigations and preliminary liquefaction assessment indicates that the site is predominantly TC1-like. Other geotechnical hazards (static settlement, erosion, slippage and inundation) are considered low risk with appropriate future engineering design.

8 The presence of potentially organic soils in the low-lying eastern portion of the site increases the risk of static settlement in this area. It is likely that this area may be used for stormwater detention basins or general green space and as a result of this usage, residential buildings are unlikely. This risk will be assessed further once the overall subdivision development plan is confirmed. However, I do not anticipate this limiting development (eg. Roads, footpaths, house sites) in this area with appropriate geotechnical design and construction.

9 My assessment has considered the items required by Section 106 of the RMA and in our opinion the site is considered geotechnically suitable for Plan Change and future subdivision. Further investigations and design will be carried out at the subdivision consent stage.

EVIDENCE

10 My evidence for this rezoning request remains the same as that report and I will not repeat its contents here. Instead, I refer to this report which is attached to the Section 32 report for the plan change application.

11 I have read Appendix A (Geotech Peer Review), Appendix C (Land Engineering Review) and Appendix D (Development Engineering Technical Memo) of the Section 42A report prepared by Nick Boyes.

12 No further geotechnical issues about the site were raised in Appendix A (the Geotech Consulting Ltd letter dated 22 February 2021) which require a response.

13 No further geotechnical issues about the site were raised in Appendix C (Tonkin and Taylor letter dated 14 October 2021). I understand that the issues presented in the T&T report are being covered in other evidence.

14 Appendix D of the Section 42A report comments on the issues with pavement construction at the adjacent Te Whariki Subdivision. Whilst I was not involved in that subdivision design or construction, I understand that construction was carried out in winter months, which is when groundwater levels are likely to be highest (along with early spring). Reference should be made to Appendix 1 of Tim McLeod's evidence (email from Mason Reed - geotechnical engineer involved with Te Whariki) for additional information on this issue. Construction of pavements in winter is not advisable in the low-lying eastern portions of the site (eastern third of the site).

15 My experience with other subdivisions underlain by (or consisting of) peat / soft soils, such as in the Casebrook area, is that engineering solutions (over excavation and replacement with engineered fill and geogrid reinforcement and/or preloading) are constructable and limit future risks associated with pavement and building performance.

CONCLUSION

16 The low-lying eastern portions may have higher risk geotechnical conditions, but this does not preclude development as these can be developed with appropriate geotechnical design and construction.

17 From a geotechnical perspective, the majority of the proposed development is considered low risk due to the dense underlying gravel deposits and the ability to design future structures to cope with the seismic and static settlement demands.

Dated: 4 November 2021

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Chris Thompson