

**BEFORE THE HEARING PANEL
APPOINTED BY KAPITI COAST DISTRICT COUNCIL**

IN THE MATTER OF | I TE TAKE O the Resource Management Act 1991
AND | ME

IN THE MATTER OF | I TE TAKE O Proposed Plan Change 5 (Private):
100 and 110 Te Moana Road,
Waikanae, Kāpiti Coast District

**STATEMENT OF EVIDENCE OF
ROBERT BRUCE SMITH
ON BEHALF OF ERIC, VINCE AND RAECHEL OSBORNE**

Dated 2 September 2026

Introduction

1. My full name is Robert Bruce Smith.
2. I have prepared this Statement of Evidence regarding Private Plan Change 5 (**PC5**) to the Kapiti Coast District Plan, in relation to Geotechnical Engineering matters.

Qualifications and experience

3. I am a Chartered Member of Engineering New Zealand (CMEngNZ), a Chartered Professional Engineer (CPEng), an International Professional Engineer (IntPE(NZ)), and an APEC Engineer. I am a Principal Geotechnical Engineer with over 20 years of experience in geotechnical engineering, with a particular focus on site characterisation, foundation design, and the assessment of natural hazards, including seismic risk and liquefaction. I have extensive experience in providing expert geotechnical advice for land development and resource consent projects throughout New Zealand. My curriculum vitae is appended to this statement. I am a Principal Geotechnical Engineer at CGW Consulting Engineers, a role I have held since 2022.

Code of Conduct

4. I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and confirm that I have complied with it in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise, except where I have indicated that I am relying on others' opinions. I have not omitted material facts known to me that might alter or detract from my evidence.

Summary of work completed

5. I was the lead reviewer and authoriser of the geotechnical report titled Geotechnical Assessment Report for Plan Change dated 2 May 2025 (**Geotechnical Report**).
6. The work undertaken in preparing the Geotechnical Report is as set out in Sections 5 and 6 of that report. This work included reviewing and verifying the site information and historical imagery to confirm the site's development history and identify potential contamination concerns, as well as scrutinizing the published geological mapping and Council hazard information to establish a robust geological ground model.
7. This work also included overseeing the planning and execution of the field investigation program—comprising Cone Penetration Tests (**CPT**) and Hand

Auger Boreholes with Dynamic Cone Penetrometer (**DCP**) testing—ensuring the testing density and locations were adequate to capture the site's variable ground conditions.

8. My review extended to the interpretation of the investigation data, the liquefaction and lateral spreading analyses, and the subsequent engineering recommendations, to ensure they were technically sound, compliant with MBIE guidance and relevant standards, and suitable for supporting the Private Plan Change application to Kapiti Coast District Council.
9. I also assisted with preparing the CGW response to further information requested by the Council grading geotechnical matters dated 10 July 2025 (**RFI response**).
10. Except as otherwise modified or updated as stated in this evidence, I **adopt** the Geotechnical Report and RFI response as my opinion for the purpose of this hearing.

Summary of opinion

11. For convenience, I summarise the conclusions and main findings from the Geotechnical Report and RFI response, as follows:
 1. **Site Classification and Suitability:** The site is suitable for rezoning from rural to residential from a geotechnical perspective. The site is underlain by a variable geology comprising dune sands in the south (110 Te Moana Road) and alluvial deposits in the low-lying areas (100 Te Moana Road and the northern part of 110 Te Moana Road). The geotechnical risks identified are manageable and can be appropriately addressed during the subsequent subdivision and building consent stages.
 2. **Liquefaction and Lateral Spreading:**
 - The dune area in the southern part of the site is assessed as having a low to moderate liquefaction risk, consistent with a TC2 (Technical Category 2) classification under the MBIE guidance. While two of the three CPTs predicted full-depth settlements exceeding 100mm, the more appropriate MBIE-recommended Index settlement analysis (upper 10m) indicates settlements below 100mm. Free field differential settlements following an Ultimate Limit State (**ULS**) event are conservatively predicted to be up to 50mm, which is manageable through appropriate foundation design.
 - The low-lying areas of the site are identified as having a higher risk of liquefaction (potentially moderate to severe liquefaction) and lateral spreading. These areas are more susceptible due to the higher groundwater table and the presence of free faces (the stream and wetland). The risk in these areas is currently consistent with a TC3 classification

under the MBIE guidance. The geotechnical risks in these areas can be mitigated through large-scale earthworks (raising ground levels) to create a thicker non-liquefiable crust, ground improvement techniques, or creating buffer zones.

3. **Foundations and Earthworks:** The assessment confirms the low-lying areas are underlain by Class A (non-expansive) soils, and that there are likely to be soft or weak soils along the wetland margins. Likely and viable foundation options include shallow specific engineer-designed (SED) TC2-type foundations (e.g., waffle slabs) for the wider subdivision and piled foundations where necessary, with these measures to be confirmed at the subdivision and detailed design stage. The ultimate bearing capacity of natural soils is generally assessed at 200 kPa.

Regarding earthworks, I concur that further flood modelling would also be required as detailed design matter to be addressed during the subdivision consent stage, and defer to Mr Martell's and Mr Taylor's evidence as to how build earthworks to achieve a building platform can maintain site and wetland hydrology and address flood hazard risks from the modelling work completed to date. From a geotechnical perspective, I do not anticipate adverse effects from the proposed earthworks, provided they are designed and managed appropriately, and confirm that the granular (sand/silt, sand/clay) materials present on the site are generally suitable for engineered fill to achieve stable building platforms.

4. **Further Investigations:** The current level of geotechnical assessment is appropriate for a plan change stage. As stated in our reports, further detailed geotechnical investigations are required during the subdivision consent stage. These will include additional CPT testing, installation of piezometers for groundwater monitoring, and more refined analyses to confirm final design parameters and mitigation measures, including to mitigate liquefaction risk specifically to an acceptable level (TC 2 or better).

Submissions

5. I have reviewed the relevant submissions on PC5. While I understand there may be general concerns from submitters regarding natural hazards (particularly flooding and liquefaction), the geotechnical assessment confirms these risks are well understood and can be mitigated. The distinction between the dune area (TC2) and the low-lying area (TC3) is a key technical finding that supports the suitability of the entire site for residential development, subject to appropriate mitigation measures and further design-phase investigations.

Section 42A Report

6. I have read s 42A Report and supporting Technical Evidence of Mr McDermott.
7. I note the Section 42A report acknowledges that the geotechnical risks associated with the site are identified and that a robust framework for their management is provided. I agree with the report's (and Mr McDermott's) findings that the key geotechnical matters are not a barrier to the plan change proceeding, provided that the subsequent subdivision and building consent stages are conditioned to require the further investigations and detailed design solutions recommended in our reports. I do not hold any significant disagreements with the conclusions of the Section 42A Report and Mr McDermott's evidence in relation to geotechnical matters.
8. Regarding paragraph 15.4 of Mr McDermott's evidence in particular, I repeat my evidence above that bulk earthworks and site filling for flood hazard mitigation can at the same time ensure a stable building platform and non-liquefiable crust, while inter disciplinary issues are covered by Mr Martell, Mr Taylor and Mr Usher.

Conclusions

9. In my professional opinion, the geotechnical investigations and assessments completed for the site provide a sound basis for the proposed Plan Change. The findings demonstrate that while the site has some geotechnical challenges, particularly in the low-lying areas, these are well-defined and can be effectively managed through standard engineering practices during the detailed design phases.
10. The recommendations for further geotechnical investigations at the subdivision and building consent stage are critical and will ensure the safe and successful development of the site for residential purposes. I consider that the PC 5 proposal is fundamentally sound and that there are no reasons that would preclude the rezoning of the land from a geotechnical perspective.

Robert Bruce Smith

2 September 2026