

Statement of David Neil Robert Dravitzki

In the matter of Central Hawke's Bay District Council Resource Consent RM220003

- 1.1 My full name is David Neil Robert Dravitzki. I am a Chartered Professional Engineering Geologist employed by LDE Ltd (Land Development & Engineering). I hold the qualifications of Bachelor of Science (B.Sc.) in Earth Sciences and Mathematics & Statistics (Waikato 1995) and Masters of Science (M.Sc.) (First Class Honours) in Earth Sciences (Waikato 1999).
- 1.2 I have been practicing for approximately 28 years in the field of geological and geotechnical investigations for foundation design of buildings and geotechnical hazard assessments for subdivision consent processes.
- 1.3 In addition, I have general broad knowledge and professional experience in on-site wastewater design, stormwater controls and discharge, road design, and construction supervision.
- 1.4 I have been an elected technical member of Engineering New Zealand (formerly the Institute of Professional Engineers New Zealand) since 2006 and a Chartered Professional Engineering Geologist (PEngGeol) with Engineering New Zealand since 2016 (Registration Number 257752); which now classifies my accreditation as Chartered Member of Engineering New Zealand - CMEngNZ (PEngGeol, Eng. Tech.).
- 1.5 A summary CV is attached.
- 1.6 I have read the Environment Court's Code of Conduct for Expert Witnesses 2023, and I agree to comply with it. I confirm that the issues addressed in this brief of evidence are within my area of expertise, except where I state I am relying on what I have been told by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.
- 1.7 I have no commercial relationship with the applicant, save in my role as an expert in relation to this application.
- 1.8 I reviewed and approved the Geotechnical Investigation Report for the proposed Stage 3 Subdivision at Punawaitai Road, Pourerere, reference 14668.2 Revision.2, dated 11 August 2022.
- 1.9 I also reviewed and approved the various geotechnical investigation reports relating to the previous stages of the development.
- 1.10 I can confirm that the level of investigation carried out the site to date is appropriate to the level of the proposed subdivision and is sufficient for assessing the land hazards for Resource Consent purposes.
- 1.11 Please refer to the Stage 3 11 August 2022 for all technical matters.
- 1.12 In the event of my unavailability, please direct any queries to Robert Loomes at LDE, who carried out the investigations and prepared the report, and is fully cognisant of the findings of our assessment.



DAVE DRAVITZKI (PEngGeol)

GEOTECHNICAL MANAGER CENTRAL

www.lde.co.nz

QUALIFICATIONS AND MEMBERSHIPS

MSc (Hons), BSc
CMEngNZ (PEngGeol, Eng. Technologist), Chartered Professional Engineering Geologist.
Member of New Zealand Geotechnical Society

PRACTICE FIELDS

Geotechnical Engineering | Engineering Geology

EXPERIENCE

28 years of professional experience

AREAS OF PRACTICE

Dave is a Chartered Professional Engineering Geologist based in our Napier office. Dave's wide-ranging project experience means he is an expert in problem-solving across multiple simple and complex geotechnical and geological hazards. This includes slope stability of hillsides, complex landslides in the problematic Northland Allochthon geology, liquefaction analysis, lateral spreading, geomorphic assessments and detailed trenching across active faults (including the Alpine Fault), foundation assessment in soft, compressible, and volcanic soils, tunnel gully (piping or tomo) erosion, expansive soils, active geothermal conditions, and karst (limestone) landscapes.

In addition to his core geotechnical competencies, Dave also has extensive experience in rail projects and earthworks construction supervision. His broad knowledge within civil/roading projects, pavement design, structural and retaining wall design, storm-water disposal design, contaminated land, and water investigations ensure a holistic approach is adopted for all projects. Dave can integrate his knowledge across these disciplines within the project engineering, architectural, and planning/resource management frameworks to ensure that project delivery of project developments is robust and fit for purpose with cost-effective solutions.

EMPLOYMENT HISTORY

- LDE Ltd – Napier** 2016 - Present
Senior Engineering Geologist & Geotechnical Professional Branch Manager
 Technical reviewer and sign-off for LDE projects across all offices, encompassing projects in and around Kerikeri, Whangārei, Warkworth, Auckland, Bay of Plenty, Gisborne & East Cape, Hawke's Bay, Manawatu, Wairarapa, and Christchurch. Verification of ground models, engineering geological interpretation, geotechnical parameters, liquefaction calculations, slope stability models, and development of practical and cost-efficient foundation recommendations & designs.

Lead manager of LDE projects across Hawke's Bay, encompassing projects in Napier, Hastings, Havelock North, and surrounding communities. Design and assessment of investigation of steep slopes, liquefaction potential, and fault hazards. Management and coordination of deliverables and budgets to meet stakeholder time and cost expectations.
- Opus International Consultants Ltd – Rotorua** 2014 – 2016
Senior Engineering Geologist
 Developed geotechnical skills through house and subdivision assessments on soft and erosion-prone volcanic soils. Conducted detailed assessments of liquefaction potential of sedimentary sequences, detailed assessment of consolidation characteristics of soft and compressible lake sediments under fill loads, and appraisal of geothermal activity and thermal conditions with respect to foundation conditions and concrete corrosivity.
- 4D Geotechnics Ltd – Perth, WA** 2012 – 2014
Senior Engineering Geologist
 Alongside geotechnical responsibilities, including assessment of foundation treatment options, coordinating drilling and test pitting investigation programmes, and risk and hazard analysis, Dave had the lead role in the review of major investigation tender documents, writing detailed proposals and completion of submission documents for projects over \$1M in total value. He was also responsible for contract negotiation in many small and large projects, including the submission of variations. Project Management of jobs with budgets in excess of \$100,000, including weekly reporting and management of field sub-teams in remote and isolated areas, including time sheet accountability and cost tracking, with coordination of junior and senior staff report deliverables to meet deadlines.



EMPLOYMENT HISTORY

Smart Alliances Ltd – Blenheim, Kaikoura, Marlborough Sounds

2006 – 2012

Engineering Geologist

Management of engineering projects within the resource consent framework and internal architects, and business proposal, set up, and management of satellite office in Kaikoura. The sole responsibility for geotechnical fee proposals, investigation, report preparation, delivery to deadlines and invoicing. Responsible for presenting evidence as an expert witness in Resource Consent Hearings, and assessments for the Earthquake Commission, both stability reports in the Sounds and liquefaction land damage assessments in Christchurch as part of the earthquake recovery.

Fraser Thomas Ltd – Auckland

1999 – 2006

Engineering Geologist

Start to finish investigations for small and large scale residential and commercial developments, quarry, existing resource evaluations and hydrogeological investigations, and contaminated site investigation and appraisals, such as review of the Hobsonville Airbase Environmental Audit Reports. Design, installation and reporting of a two-year BRANZ Research Project programme investigating the expansive characteristics of soils within Auckland.

PROJECT EXPERIENCE

Multiple Road & Slip Repairs, Far North District Council & Wairoa District Council | Various

- Carried out multiple reviews of engineering geological models of road slip mechanisms.
- Reviewed associated geotechnical investigation data and design solutions.
- Reviewed appropriateness of design solutions to optimise construction costs.

40 Lot Subdivision, Clive | 2019 - 2021

Detailed liquefaction assessment and engineering geological model for considering land constraints and limitations and the vertical and lateral variability across the site with respect to development implications and building structure suitability. Calculated & assessed vertical liquefaction settlement values, lateral spreading movements and vulnerability and determined geotechnical parameters for preliminary foundation designs. Addendum assessment to update to new HDC policy.

Flaxmere College Redevelopment | 2016 - 2022

RDT Pacific | Stead Construction | Ministry of Education

Project manager and lead geotechnical reviewer for Preliminary assessment of new multi-building replacement programme. Design of geotechnical investigation programme to satisfy Design & Build Contract requirements for Preliminary Design, Detailed Design, and construction supervision stages. Appointment to proceed with D&B works received.

Mangapapa School Replacement Buildings | 2019

DCA Architects | Ministry of Education

Project manager and lead geotechnical reviewer for Masterplan assessment and Preliminary Design phases of the new multi-building replacement programme. Desktop study and review of previous investigations, design of geotechnical investigation programme, and liaison with architects, civil engineers, and structural engineers. Implementation of site investigation, appraisal, and assessment of results, including liquefaction assessment and complex interaction with slope stability considerations. Review and approval of report deliverables for the purchase agreement. Coordination with MoE representatives and architects for attendance and presentation to MoE Design Review Panel. Detailed design and discussion of foundation solutions with DRP and peer reviewers.

Building & Subdivision Developments, Hawke's Bay | Various

Design of house site and subdivision geotechnical investigations to identify and address soil variability, slope stability, liquefaction, and fault line hazards as necessary. Oversight of junior staff and review of geotechnical investigation reports. Coordination of building/subdivision earthworks and building foundation excavation inspections and contractor supervision and monitoring, review and sign-off of PS1, PS4, & resource consent documentation provided to Napier City Council and Hastings District Council.

Te Kura Kaupapa Māori o Te Wananga Whare Tāpere o Takitimu | 2018 - 2019

Ministry of Education, Hastings

Project manager and lead geotechnical reviewer for preliminary assessment of new TKKM school development. Desktop study and design of geotechnical investigation programme, coordination of site investigation, appraisal, and assessment of results, including liquefaction assessment and suitability of building structure types, review, and approval of report deliverables for a purchase agreement. Coordination with MoE representatives, legal team, planning consultants, transportation engineers, & surveyors for evidence preparation for Notice of Requirements to designate the site for educational purposes. Presentation of evidence to the Resource Consent Hearing Committee.

Kimi Ora School Redevelopment | 2017 - 2021

RDT Pacific | DCA Architects | Stead Construction | Ministry of Education

Project manager and lead geotechnical reviewer for Preliminary assessment of new multi-building replacement programme. Design of geotechnical investigation programme to satisfy Stage 1 and Stage 2 future requirements. Implementation of site

investigation, appraisal, and assessment of results for detailed design assessments. Coordination with Design & Build Contractor on inspection monitoring, testing, and certification requirements.

Maungaharuru Wind Farm, Meridian Energy | 2017

Project manager and lead geotechnical reviewer for a comprehensive review of a series of geotechnical investigations spanning multiple decades within challenging topographic and geomorphic environments involving sinkhole and karsitic landscapes. Design of additional detailed investigations to address specific issues relating to the project and development of risk hazard matrix incorporating solutions.

Technical Reviews for Various Projects | 2016 - 2023

Technical reviewer for LDE projects across all offices, encompassing projects in and around Kerikeri, Whangarei, Warkworth, Auckland, Bay of Plenty, Gisborne & East Cape, Hawke's Bay, Wairarapa, and Christchurch. Verification of ground models, engineering geological interpretation, geotechnical parameters, liquefaction calculations, slope stability models, and development of practical and cost-efficient foundation recommendations & designs.

Hemo Gorge Roundabout, New Zealand Transport Authority | 2015

Preliminary & Detailed Stage assessments of intersection realignment, encompassing appraisal of distribution of soft sediments and tephra layers, geothermal gradients and proximity to mineral pools and mud pools, consolidation settlement of embankment fills, liquefaction assessments and design of underpass structures in accordance with the NZTA Bridge Manual, cut and fill slope stability assessments under static and seismic loads.

Hancock Prospecting Mulga Downs Haul Road | 2013 - 2014

Engineering Geological mapping and ground-breaking provisional investigation of 30 km haul road following existing road alignment, including a 10 km new section.

Rio Tinto Koodaideri Rail Project | 2012 - 2014

Phase 1 Desktop study and ground-based reconnaissance investigation across challenging geomorphology to identify engineering geological and geotechnical issues for the proposed 175 km rail alignment. Lead author of report deliverables.

Design of Phase 2 Detailed Engineering Study ground-breaking investigations and lead author of the interpretive report, assessing 200 centreline and borrow test pits, collaborating with geotechnical design for rail over rail bridge foundations.

Roy Hill Rail Project | 2013

Relief project manager for a 350 km railway project, picking up the role due to project condensation during a critical project period when multiple mapping teams were undertaking field investigations. Managing project daily and weekly team reporting and responsible for responding to the scope of works for ground-breaking investigations, including associated contract negotiations.

Fortescue Metals Group Nyidinghu Rail Project | 2012 - 2013

Desktop study, ground-based mapping and helicopter reconnaissance investigation to identify engineering geological and geotechnical issues across challenging geomorphology to proposed new 100 km rail alignment. Lead author of report deliverables.

Expert Witness and Evidence

Providing an expert statement of evidence, summarising the findings of a Preliminary Geotechnical Report for a Notice of Requirement for designation of land for educational purposes at Waipatu, Hastings. The statement of evidence included comments on:

- the site's soil strength;
- review of potential site-specific natural hazards;
- the need for mitigation measures for the subsoils susceptible to liquefaction, and;
- confirmation the mitigation specific design measures were not excessive in comparison to what would be expected of any educational or residential building.

It was concluded that the site was generally stable and suitable for building development.