Design and Building Practitioners Regulation 2020 Stakeholder Feedback Template Form

Your Name: *Derek Avalle* Organisation Name: *Broons Group* Date: *7 January 2021*

About you

I am a member of the Australian Geomechanics Society (AGS). The AGS is a technical society of Engineers Australia (EA), created to promote and advance the theory and practice of geomechanics in Australia. The membership of the AGS comprises Geotechnical Engineers and Engineering Geologists, with the two disciplines having significant cross over. I suggest that the AGS is well placed to provide further information to the NSW government on the roles of these two disciplines in the building industry.

Regulatory Impact Statement (RIS)

Please use this section to provide feedback on the RIS. The questions from the RIS have been reproduced here for convenience. Page numbers in brackets refer to the section in the RIS.

Scope of reforms (page 15)

- 1. Do you think the reforms should be expanded to other types of buildings over time? Yes. Why/Why not? If so, which types of buildings do you think should be next? Ultimately, registration should cover all forms of construction, including residential and infrastructure.
- 2. Do you agree that the reforms should only apply to existing arrangements where the Complying Development Certificate or Construction Certificate has been applied for on or after 1 July 2021? Yes Why/Why not? *Retrospective application would be likely to involve dispute and legal action.*

Registration of Compliance Declaration practitioners (page 23)

5. Do you support the proposed classes of Design Practitioner? No Why or why not?

An additional category of Design Practitioner is proposed: **Design Practitioner – Engineering Geologist** to cater for Engineering Geologists who are currently design practitioners for class 2 buildings (refer to the answer to Question 7).

- **6.** Other than qualifications, skills, knowledge and experience requirements, are there any other eligibility criteria that applicants should meet to be eligible for registration? *No*
- **7.** Are there other types of Design Practitioners that should be included or any that should be removed? Yes If so, what are they and why?

The Regulations omit an essential type of Design Practitioner: Engineering Geologists.

Engineering Geologists investigate and interpret the natural and built environment subsurface to manage ground risks at planning, design and construction stage. They use their geological skills to enhance engineering practice in such fields as site investigation, slope stability analysis, mapping of geological and geotechnical hazards, foundation and earthworks design, and underground construction and excavation supervision. Engineering Geologists are therefore key Design Practitioners for residential apartment buildings class 2 and as such should be included in these Regulations.

The important role played by professional engineering geologists is already recognized by the NSW Department of Infrastructure, Planning and Natural Resources in their Geotechnical Policy Kosciuszko Alpine Resorts. This policy is applicable for building work covered by State Environmental Planning Policy No. 73 Kosciuszko National Park - Alpine Resorts) 2007. Professional engineering geologists with RPGeo or CPGeo are recognised by this Policy.

Poor characterisation and understanding of the soil or rock mass can severely impact class 2 buildings in NSW. Examples of geological hazards affecting NSW Class 2 buildings are

provided in the table below. The damage to these class 2 buildings could have been avoided with an assessment of ground conditions by an Engineering Geologist.



The current Regulations do not cater for Engineering Geologists and changes are required in the definitions of Design Practitioners.

The following approach is proposed to cater for Engineering Geologists within the Regulations:

- Add a new design practitioner type called Design Practitioner Engineering Geologist
- Do you support the proposed qualification, skills, knowledge and experience requirements for each class of practitioner? Yes Why or why not? Please make suggestions for additional or alternative requirements.

As described in the answer to Question 7, it is recommended to:

- Add a new design practitioner type called Design Practitioner - Engineering Geologists .

The possible change would be to add the new qualification/knowledge and skills matching the new proposed type of design practitioner:

- Schedule 2, Part 3

20 Design practitioner— engineering geologist

- (1) Qualification
 - At least one of the following-
 - (a) an accredited 3 year full-time or equivalent part-time undergraduate bachelor degree in engineering geology
 - (b) an accredited postgraduate masters degree in engineering geology,
 - (c) a non-accredited qualification that has been assessed as being equivalent to an accredited qualification in paragraph
 (a) or (b)—
 - (i) for a qualification that was conferred by an Australian university or tertiary institution by an Australian signatory to the Washington Accord, or
 - (ii) for a qualification that was conferred by a foreign university or tertiary institution—by an assessing authority for the skilled occupation of engineering geologist.
- (2) Knowledge

Must know and understand the knowledge referred to in clause 17(2) of this Schedule.

(3) Skills

In addition to the skills referred to in clause 17(3) of this Schedule, must be able to:

- Demonstrate they can assess the nature of the ground in activities requiring specialist and in-depth engineering geological knowledge.

- Demonstrate they can work closely with other engineering professionals to solve (identify, investigate, assess and communicate) complex engineering geological problems.

Demonstrate they can work closely with other engineering professionals to convey engineering geological context.

- (4) In this clause— accredited, assessing authority, skilled occupation and Washington Accord have the same meanings as in clause 21 of this Schedule.
- **9.** Do you agree that practitioners should be required to have 5 years of recent and relevant practical experience? Yes

Registration of Professional Engineers (page 29)

11. Are there any other areas of engineering that should be captured for the purposes of

designing or constructing a class 2 building, or a building containing a class 2 part? Yes

Engineering geologists operate in the area of geotechnical engineering as currently defined in the Regulations ("an area of engineering that involves the mechanics of soil and rock and the application of the mechanics to the design and construction of foundations, retaining structures, shoring excavations, and ground bearing structures for buildings and other systems constructed of, or supported by, soil or rock").

Mechanics of soils and rock depend on material and mass properties, which the professional engineering geologist is particularly well-suited to characterise. The engineering geologist fulfils a key role in the identification of any required changes to design assumptions during construction of foundations, particularly retaining structures, shoring excavations, and ground bearing structures and elements for Class 2 buildings which are constructed of, or supported by, soil or rock.

The important role played by professional engineering geologists is already recognized by the NSW Department of Infrastructure, Planning and Natural Resources in their Geotechnical Policy Kosciuszko Alpine Resorts. This policy is applicable for building work covered by State Environmental Planning Policy No. 73 Kosciuszko National Park - Alpine Resorts) 2007. Professional engineering geologists with RPGeo or CPGeo are recognised by this Policy.

An additional area of engineering is not required to cater for the new proposed type of design practitioner: Design Practitioner - Engineering Geologist as both practice areas can refer to the provided geotechnical engineering definition in the Regulations.

- 12. Pathway 1 will require an engineer to satisfy certain qualifications, skills, knowledge and experience requirements. Are there any other eligibility criteria that engineers should meet before being registered? No
- **13.** The Regulation proposes recognition of Washington Accord accredited qualifications. Do you think this is appropriate? Yes If not, what alternative approach do you suggest?

- 14. Under Pathway 2 what criteria do you think the professional engineering body should satisfy to be eligible to perform their function? A good example is Engineers Australia's Chartered Status.
- 15. Would you be supportive of professional bodies developing a PSS for Pathway 3 to be available? Yes
- 16. Do you agree that Professional Engineers should be required to have 5 years of recent and relevant practical experience? Yes
- 17. Do you support the proposed generic list of skills and knowledge requirements for all classes of engineering (excluding fire safety)? Yes, but with the inclusion of engineering geologists, as detailed above. If not, please outline what you think the specific skills and knowledge for each class of engineer should be.

Compliance Declaration Scheme: practitioner requirements (page 38)

19. Do you support the proposal that all construction issued regulated designs must be lodged before any building work can commence? Yes Why or why not? *In the best interests of good practice, sound design and safe construction.*

Continuing professional development (CPD) (page 54)

- **20.** Do you support the proposed CPD requirements for Design and Building Practitioners? Yes Why or why not? It is a current process that assists in keeping practitioners up to date.
- 21. Do you support the proposed CPD requirements for engineers under pathway 1? Yes