

# Design and Building Practitioners Regulation 2020

## Stakeholder Feedback Template Form

Your Name: Paul Stubbs

Organisation Name: [REDACTED]

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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 are well placed to provide further information to the NSW government on the roles of these two disciplines in the building industry.

The proposed reforms will affect the work our organisation does on a daily basis. We have a group of almost 40 professional engineers, engineering geologists and environmental scientists. The bulk of our work is directly related to the building industry, ranging from individual homes to large multi-storey buildings.

We will need to be registered as Professional Engineers. My own qualification allows me to do this but several of my colleagues would not be able to register as they are engineering geologists. In effect that would mean that the work they do will have to be signed off by somebody who is registered despite their being perfectly competent to sign on their own behalf.

### Regulatory Impact Statement (RIS)

I consider 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 as retrospective application of laws can only cause problems.

## Registration of Compliance Declaration practitioners

The Design Practitioner – Geotechnical Engineering should be renamed **Design Practitioner – Ground Engineering** to cater for Engineering Geologists which are key design practitioners for Class 2 buildings.

Alternatively 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.

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.






Photo: James D Morgan / Getty Images

**Erosion** (Newcastle - 2020);

Source:

<https://www.theguardian.com/australia-news/2020/jul/18/nsw-central-coast-houses-partially-collapse-after-beach-erosion-caused-by-swells>

 <p>Photo: Tim Hunter. Source: News Corp Australia</p>	<p><b>Differential settlement</b> (Jordan Springs East - 2020).</p> <p>This issue led to a Contractor buying back 841 homes (source: <a href="https://www.theguardian.com/australia-news/2020/dec/15/western-sydney-lendlease-to-buy-back-up-to-841-homes-at-jordan-springs-east-site">https://www.theguardian.com/australia-news/2020/dec/15/western-sydney-lendlease-to-buy-back-up-to-841-homes-at-jordan-springs-east-site</a>).</p>
 <p>Photo: Sydney Morning Herald</p>	<p><b>Slope instability</b> (Thredbo - 1997);</p> <p>This event led to the loss of 17 lives on Wednesday July 30, 1997.</p>
 <p>Photo: Newcastle Star</p>	<p><b>Subsidence</b> due to mine tunnel collapse (Swansea Heads - 2014).</p> <p>Source: <a href="https://www.newcastlestar.com.au/story/2386272/mine-subsidence-damage-compensation-payouts-rise/">https://www.newcastlestar.com.au/story/2386272/mine-subsidence-damage-compensation-payouts-rise/</a></p>

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

As described in the answer to Question 7, there are two approaches for the Regulations to cater for Engineering Geologists:

- Group Engineering Geologists with the Design Practitioner - Geotechnical Engineers in a new design practitioner type called Design Practitioner - Ground Engineering Specialist (Alternative 1), or:
- Add a new design practitioner type called Design Practitioner - Engineering Geologists (Alternative 2).

## **ALTERNATIVE 1**

For alternative 1, the possible change would be to rename the qualification matching the renamed type of design practitioner:

- Schedule 2, Part 3 Section 17  
Design practitioner - ~~geotechnical~~ **ground** engineering

### **(1) Qualification**

Must be registered as a professional engineer in the class of professional engineer — geotechnical engineering under the Act, **or**

**Must be registered as a professional engineering geologist in an area of ground engineering by a professional body of engineers or engineering geologist that—**

- (i) **operates with a professional standards scheme, and**
- (ii) **requires the successful completion of a qualification relevant to carrying out professional engineering work in accordance with the professional standards scheme.**

## **ALTERNATIVE 2**

For alternative 2, 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.

I agree that practitioners should be required to have 5 years of recent and relevant practical experience?

## **Registration of Professional Engineers**

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.

### **ALTERNATIVE 1**

For alternative 1 (as provided in the answer to Question 7 - Design Practitioner - Ground Engineering Specialist), the only required change would be to rename the area of geotechnical engineering to area of ground engineering without further changes to the definition provided in the Regulations.

### **ALTERNATIVE 2**

For alternative 2, an additional (or change to) 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.



## **Compliance Declaration Scheme: practitioner requirements**

I support the proposal that all construction issued regulated designs must be lodged before any building work can commence?

I support the Building Practitioner being primarily responsible for lodging regulated designs on the NSW Planning Portal.

Yours Faithfully

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