

PRELIMINARY GEOTECHNICAL ASSESSMENT:

7 Carew Street, Dee Why

1.0	LANDSLIP RISK CLASS <i>(Highlight indicates Landslip Risk Class of property)</i>
<input type="checkbox"/>	A - Geotechnical Report not normally required
<input checked="" type="checkbox"/>	B - Geotechnical Engineer (Under Council Guidelines) to decide if Geotechnical Report is required
<input type="checkbox"/>	C - Geotechnical Report is required
<input type="checkbox"/>	D - Geotechnical Engineer (Under Council Guidelines) to decide if Geotechnical Report is required
<input type="checkbox"/>	E - Geotechnical Report required

2.0 Proposed Development

- 2.1** Construct an extension to the E side of the house.
- 2.2** Various other minor internal alterations to the house layout.
- 2.3** Apart from those for footings, no excavations are required. No fills are shown on the plans.
- 2.4** Details of the proposed development are shown on 24 drawings prepared by action plans, drawings numbered DA00 to DA23. All dated 30 May 2025.

3.0 Site Location

- 3.1** The site was inspected on the 6th June, 2025.
- 3.2** This residential property is on the low side of Carew Street and the high side of The Crescent and has a NE aspect. The block runs lengthways to the E so the slope is a cross-fall. It is located on the gentle to steeply graded middle reaches of a hillslope. Medium Strength Sandstone outcrops at the road frontage and across the property in several locations. Where sandstone is not exposed, it is expected to underlie the

surface at relatively shallow depths. The natural surface of the block has been altered by a cut for the house and pool, and various low cuts and fills for paved, lawn and garden areas across the property. The proposed development will not alter the surface further as part of the proposed works.

3.3 The site shows no indications of historical movement in the natural surface that could have occurred since the property was developed. We are aware of no history of instability on the property.

4.0 Site Description

The natural slope falls across the upper third of the property at gentle angles of $\sim 6^\circ$ before gradually increasing in grade to steep angles of $\sim 20^\circ$ across the remainder of the property. At the road frontage, a concrete driveway runs to a stable brick carport. The driveway continues down and across the slope to a sandstone paved parking area and garage on the ground floor of the house. The gentle to moderately graded slope between the road frontage and the house is lawn or garden covered and terraced by stable low dry stack sandstone retaining walls. A cut for the driveway has been taken through Medium Strength Sandstone which outcrops and steps down the property in this location. Immediately below the driveway, the outcropping rock was measured to be undercut by up to $\sim 2.7\text{m}$. The overhanging joint block has a relatively thick cantilever arm in relation to its overhang length. The driveway above is sufficiently set back and supported on bedrock beyond the undercut so vehicle surcharge loads are not expected to impact on the overhang. As such, we consider this outcrop stable. The part three-story house is supported on brick walls. Some of the walls were observed to be supported on sandstone where a drainage void has been excavated behind the house on the uphill side. No significant signs of movement were observed in the visible supporting walls. A pool which shows no signs of movement has been cut into the ground S of the house.

A shelf of outcropping rock extends in a NW to SE direction across the slope for $\sim 25\text{m}$ immediately below the subject house and parking area. At its deepest point, the rock is undercut $\sim 4.6\text{m}$ from the edge of the overhang. The depth of the undercut and thickness of

the overhanging portion of rock varies across the rock face and is bridged in some parts before merging with the natural slope at the furthest ends.

The brick walls of the house, the already constructed brick pier for the proposed extension, and the stable sandstone block wall for the parking area were all measured to be set back from the deepest part of the overhang at their respective locations. As such, no surcharge loads are expected on impact on the overhang. This formation has likely been in place for thousands of years. However, in the unlikely event the overhanging portion of the rock were to fail, it would come to rest immediately below its current location due to its tabular geometry. See 'Section 5.0' for advice regarding this rock formation.

The steeply graded slope across the remainder of the property is densely vegetated. The outcropping rock in this location displays no significant geological defects. The toe of the steep slope and a cut for Carew Street at the downhill boundary is supported by a stable concrete block retaining wall reaching ~2.0m high. No significant signs of movement associated with slope instability were observed on the grounds. No geotechnical hazards that could impact on the subject property were observed on the surrounding neighbouring properties as viewed from the subject property and the street.

5.0 Recommendations

To prevent any damage to or failure of the overhang during the proposed works, it is recommended construction materials and vehicles be sufficiently set back from the overhanging portion of rock immediately below the house and proposed extension.

This formation has likely been in place for thousands of years and is likely to remain in place for thousands more years. However, formations like these are quite uncommon and, over geological time, they will eventually fail. The time of failure cannot be accurately assessed. A seating area is located directly below the overhanging rock. To be prudent, it is recommended no one spend any time under the rock or in the near vicinity.

The proposed development and site conditions were considered and applied to the current council requirements. See the required inspection below that is to be carried out during construction and is a requirement for the final geotechnical certification. Apart from the inspection, it is not expected additional geotechnical input will be required provided good design and building practices are followed.

6.0 Inspection

The client and builder are to familiarise themselves with the following required inspection as well as council geotechnical policy. We cannot provide geotechnical certification for the owners or the regulating authorities if the following inspection has not been carried out during the construction process.

- All footings are to be inspected and approved by the geotechnical consultant while the excavation equipment and contractors are still onsite and before steel reinforcing is placed or concrete is poured.

White Geotechnical Group Pty Ltd.



Nathan Gardner B.Sc. (Geol. & Geophys. & Env. Stud.)
AIG., RPGeo Geotechnical & Engineering.
No. 10307
Engineering Geologist & Environmental Scientist.

Reviewed By:



Ben White M.Sc. Geol.,
AIG., RPGeo Geotechnical & Engineering.
No. 10306
Engineering Geologist.



Information about your Preliminary Assessment

This Preliminary Assessment relies on visual observations of the surface features observed during the site inspection. Where reference is made to subsurface features (e.g., the depth to rock) these are interpretations based on the surface features present and previous experience in the area. No ground testing was conducted as part of this assessment and it is possible subsurface conditions will vary from those interpreted in the assessment.

In some cases, we will recommend no further geotechnical assessment is necessary despite the presence of existing fill or a rock face on the property that exceed the heights that would normally trigger a full geotechnical report, according to the Preliminary Assessment Flow Chart. Where this is the case, if it is an existing fill, it is either supported by a retaining wall that we consider stable, or is battered at a stable angle and situated in a suitable position on the slope. If it is a rock face that exceeds the flow chart limit height, the face has been deemed to be competent rock that is considered stable. These judgements are backed by the inspection of over 5000 properties on Geotechnical related matters.

The proposed excavation heights referred to in section 2.0 of this assessment are estimated by review of the plans we have been given for the job. Although we make every reasonable effort to provide accurate information excavation heights should be checked by the owner or person lodging the DA. If the excavation heights referred to in in section 2.0 of this assessment are incorrect, we are to be informed immediately and before this assessment is lodged with the DA.
