

Matt Green  
MG Civil Pty Ltd

GEOTECHNICAL REPORT

Report Number	RG1160-GR-1-1
Site Classification	Class A
Project Name	Proposed Dwelling
Site Address	7 Boronia Rd, Ingleside NSW
Date of Field Work	22 <sup>nd</sup> February 2025
Material Description	Bedrock Sandstone
Borehole IDs	BH1 (0.00-0.30m) BH2 (0.00-0.30m)

1. INTRODUCTION

This report presents the findings of a geotechnical investigation carried out by Rapid Geo Pty Ltd (RG) at 7 Boronia Rd, Ingleside NSW (the site).

The purpose of the investigation was to assess the subsurface conditions and provide a preliminary report in accordance with the “Residential Slabs and Footings” Code AS2870-2011. Any geotechnical constraints encountered during the investigation have been noted in this report and will contribute to the proposed dwelling.

2. SCOPE OF WORK

In order to achieve the project objectives, the following scope of work was carried out:

- Walkover of current site conditions
- Two (2) drilled boreholes
- Logging and engineering assessment of soil
- Preparation of a geotechnical lot classification report

3. DESKTOP STUDY, PROJECT SPECIFIC INFORMATION AND FIELDWORK ACTIVITIES

Table 3.1 Summary of desktop study, project specific information and fieldwork activities

Geological Survey	The available ‘Geological Survey Maps’ showed the site to be underlain by Hawkesbury sandstone. The subsurface profile encountered in the boreholes is consistent with the Sydney Geological Maps.
Site Description	<p>At the time of inspection, the site was vacant land. The site can be described as slightly declined, dipping in a Southeastern direction and was grassed across the entire site. The site is bounded by Boronia St to the North. No geological features such as creeks, dams or rivers were present on the site. Large trees were present in a reserve southwest of the site.</p> <p>It was observed rock outcrops were present across the site with only 100-200mm of topsoil covering the area.</p>

<b>Scope of Field Investigation</b>	Two (2) boreholes were advanced using a utility mounted drill rig to the depth of refusal.														
<b>Fieldwork Observations/Soil Profile</b>	<p>Soil profile logging was carried out by a suitably qualified Geotechnical Engineer.</p> <p><b>BH1</b></p> <p><i>0.00-0.30 – Bedrock – SANDSTONE, very low strength, highly weathered, brown mottled grey</i></p> <p><i>0.30 – Borehole Refusal on Sandstone Bedrock (Inferred Class V)</i></p> <p><b>BH2</b></p> <p><i>0.00-0.30 – Bedrock – SANDSTONE, very low strength, highly weathered, brown mottled grey</i></p> <p><i>0.30 – Borehole Refusal on Sandstone Bedrock (Inferred Class V)</i></p> <p>No groundwater seepage was encountered during the investigation.</p>														
<b>Site Classification In Accordance With AS2860-2011</b>	In accordance with AS2870-2011 “Residential Slabs and Footings” a site classification of <b>Class “A”</b> is applicable due to this site’s presence of Sandstone bedrock at surface level. This is on the provision all footings for the proposed dwelling are founded and socked into bedrock sandstone below all sand soils.														
<b>Allowable Bearing Pressure/ Footing Recommendation</b>	All footings must be founded into bedrock sandstone. The low strength sandstone encountered is considered suitable for an allowable bearing pressure of 700 kPa. This should be confirmed by a suitably qualified Geotechnical Engineer during excavation and footing installation														
<b>Class V Sandstone Parameters</b>	<p><b>Table 2: Sandstone Parameters</b></p> <table> <tr> <th>Parameter</th><th>Class V Sandstone</th></tr> <tr> <td>Unconfined Compressive Strength (UCS)</td><td>700 kPa</td></tr> <tr> <td>Modulus of Elasticity (E)</td><td>100 MPa</td></tr> <tr> <td>Poisson’s Ratio</td><td>0.30</td></tr> <tr> <td>Cohesion (c)</td><td>30 kPa</td></tr> <tr> <td>Internal Friction Angle (<math>\phi</math>)</td><td>30°</td></tr> <tr> <td>Density</td><td>2.4 t/m<sup>3</sup></td></tr> </table>	Parameter	Class V Sandstone	Unconfined Compressive Strength (UCS)	700 kPa	Modulus of Elasticity (E)	100 MPa	Poisson’s Ratio	0.30	Cohesion (c)	30 kPa	Internal Friction Angle ( $\phi$ )	30°	Density	2.4 t/m <sup>3</sup>
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<b>References</b>	<ul style="list-style-type: none"> <li>AS1726-1993 - Geotechnical Site Investigations</li> <li>AS2870-2011 - Residential slabs and Footings Construction</li> </ul>														

## Limitations

If additional fill is encountered during excavation of footings and not described in the field investigation logs then further advice must be obtained prior to placement of the foundations. This may require additional boreholes in order to confirm site conditions. The subsurface profiles depths quoted in this report are measured from the surface during our site investigation and the description of the strata materials has been provided for its easy recognition in general terms over the area. Attached plans and sketches in this report should be considered approximate pictorial evidence of our work. This report is based upon the assumption that the sites conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. The assumption cannot be substantiated until earthworks and construction works start. Where variations in conditions across the described site is encountered further geotechnical advice should be sought

Should you need any further information, please do not hesitate to contact us.

Regards,

Prepared by:



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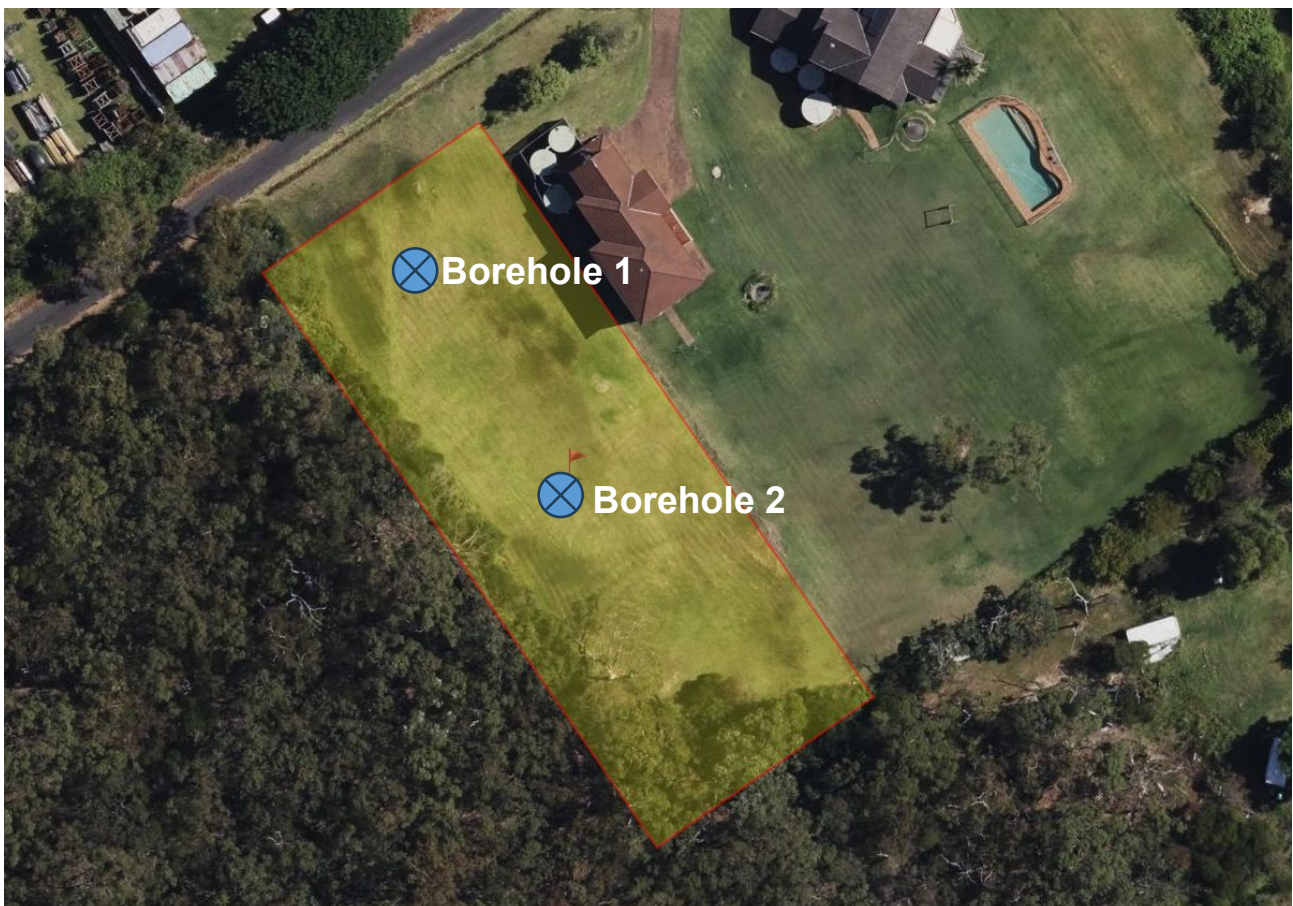


Figure 1 – Location of Boreholes