PRELIMINARY GEOTECHNICAL ASSESSMENT
FOR
PROPOSED ALTERATIONS AND ADDITIONS
AT
11 BROOKER AVENUE, BEACON HILL

1.0 INTRODUCTION.

1.1 This assessment has been prepared to accompany an application for development approval.

1.2 The site is located in land that is subject to Areas A & B on the Landslip Risk Map. The methods used in this Assessment are based on those described in Landslide Risk Management March 2007, published by the Australian Geomechanics Society. Also Council checklist contained within Clause E10 of Warringah DCP and the WLEP Map identifying the Landslip Risk Class as highlighted (red) below:-

	LANDSLIP RISK CLASS *(Highlight indicates Landslip Risk Class of property)*
☒	*A Geotechnical Report not normally required*
☒	*B Geotechnical Engineer (Under Council Guidelines) to decide if Geotechnical Report is required*
☐	*C Geotechnical Report is required*
☐	*D Council officers to decide if Geotechnical Report is required*
☐	*E Geotechnical Report required*

1.3 The experience of Hodgson Consulting Engineers spans some 25 years in Northern Beaches and the Greater Sydney area.

2.0 PROPOSED DEVELOPMENT

2.1 Alterations and additions to the first and ground floor levels.

2.2 Construct a new carport over the existing drive in front the existing residence.

2.3 Various landscaping works in the front and rear yard.

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2.0 PROPOSED DEVELOPMENT (Continued)

2.4 Replace the existing kidney shaped swimming pool with a new rectangular swimming pool in a slightly different location.

2.5 Details of the proposed development are shown on a series of architectural drawings prepared by Hargroves Design Consultants, Dwg No: DA-100 to DA-112, Issue D and dated 17th July, 2020.

3.0 SITE LOCATION

3.1 The site was inspected for this assessment on the 13th July, 2020.

3.2 This average sized rectangular residential block has a westerly aspect. From the road frontage the site falls moderately at 5 to 10 degrees from Brooker Avenue continuing to fall beyond the rear boundary. The slope then steepens beyond the rear boundary to a very steep slope down to Oxford Falls Road at average angles of 15 to 20 degrees.

4.0 SITE DESCRIPTION

From the road frontage the concrete driveway crossing starts near the north eastern corner of the property heading west towards the attached garage at the front of the existing residence. A level lawn area is to the south of the garage. Pedestrian access to the main entrance of the existing residence is via the driveway and a gated pathway on the southern side of the garage. Access to the rear of the property is via a gated pathway on the northern side of the existing residence and by a pathway on the southern side. At the rear of the existing residence is a timber deck at the north western corner of the existing residence and a lawn area to the south of the deck. The paved area around the swimming pool extends from one side boundary to the other. The swimming pool and surrounds is parallel with and adjacent the rear boundary. A concrete block retaining wall runs along the rear boundary and was in fair to good condition at this time. Exposed Hawkesbury Sandstone was observed as the foundation material of the rear boundary retaining wall. The existing residence is of brick veneer construction supported on a raft slab. At the time of our inspection no significant geotechnical hazards were identified and the existing residence was in good condition with no signs of significant movement due to geotechnical instability.

5.0 RECOMMENDATIONS

The proposed alterations and additions will require excavation for new footings. The depth to the underlying bedrock is approximately 0.5 to 2.0 metres varying due to the slope and fill material. We recommend that the new foundations are to be taken to the underlying bedrock. The allowable bearing capacity of the Hawkesbury Sandstone is 850kPa.

The proposed alterations, additions and existing site conditions were considered and applied to the Council Flow Chart for class A & B areas as contained within Clause E10 of Warringah DCP and the WLEP. Based on this preliminary assessment, the proposed development works would be considered satisfactory from a Geotechnical and landslip perspective subject to the application of good engineering practice for the structural design and construction methods. As the existing swimming pool is to be replaced by new swimming pool in a similar position then no major excavation will be required. The proposed new swimming pool structure and retaining structure will replace the existing rear boundary retaining wall and the proposed works will remove a significant amount of the existing fill from the site. Given that the existing fill material is to be removed and with no signs of significant movement due to geotechnical instability observed it is therefore recommended that no further geotechnical assessment is required.

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