Jack Hodgson Consultants Pty Limited
CONSULTING CIVIL, GEOTECHNICAL AND STRUCTURAL ENGINEERS
ABN: 94 053 405 011

PRELIMINARY GEOTECHNICAL AND ACID SULFATE ASSESSMENT FOR PROPOSED SECONDARY DWELLING AT 10 THE ESPLANADE, NARRABEEN.

1. 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 Area E 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 Jack Hodgson Consultants spans some 40 years in Warringah and the Greater Sydney area.

2. PROPOSED DEVELOPMENT.

2.1 Construct new secondary dwelling to the north of the existing residence.

2.2 Details of the proposed development are shown on 6 architectural drawings prepared by Custom Granny Flats, Sheet No: S1 to S4 and N1 to N2, Issue dated 16th October, 2018.

DIRECTOR: N. J. HODGSON
Unit 38B No 6 Jubilee Avenue, Warriewood NSW 2102
PO Box 389 Mona Vale NSW 1660
Telephone: 9979 6733 Facsimile: 9979 6926
www.jackhodgson.com.au

3.0 SITE LOCATION

3.1 The site was inspected on the 13th November, 2018.

3.2 This property is a regular sized residential block with a northerly aspect. The surface contours are controlled by the underlying shale and sandstone bedrock. The block rises very steeply from The Esplanade with a moderate to steep slope to the rock escarpment past the rear boundary of the existing residence.

4.0 SITE DESCRIPTION

From the Lindley Avenue road frontage the shared battle-axe driveway provides vehicular and pedestrian access to the carport to the rear of the existing residence. A set of stairs provides access to the lower pathway at the rear of the existing residence. A rock escarpment of approximately 3.0 metres in height is at the back of the existing residence. Pathways on the western and eastern side of the existing residence provide access to the front yard. The front yard lawn area is terraced with an approximately 1.5 metre high retaining walls. The stone retaining walls were observed to be stable at the time of our inspection. A set of stairs provide access down the very steep embankment to The Esplanade. The two storey residence is constructed from masonry and timber. No evidence of significant settlement, cracking or other evidence of slope instability was identified at the time of our inspection.

5.0 ACID SULFATE

This paragraph is to address the requirement for Acid Sulfate Soils reporting to accompany a submission for Development Application with Northern Beaches Council – Warringah, at the subject address. The subject property is mapped as per Warringah Council's Local Environmental Plan 2011 as Class 2 Acid Sulfate at the northern quarter of the site.

The portion of the property related to the proposed development is situated on the northern side of The Esplanade at an approximate RL of between 11.0 – 13.0. The site is underlain by interbedded sandstones, siltstones and shales of the Narrabeen Group. The bedrock can be seen in at the front of the property and in the rock escarpment below the rear of the property. The sandstone bedrock is overlain by sandy topsoils and thin clay layers to an approximate maximum depth of 1.0m. These soil materials lack both the reducing environment and the iron content required to generate acid sulfate conditions. No fills or river sediments that can provide the required conditions for the formation of Acid Sulfate Soils are present on the site. Typically areas that might provide the necessary conditions for the generation of acid sulfate soil are found below approximately RL 5.0.

It is our opinion that there is no credible possibility that the subject site is affected by acid sulfate soils. No further reporting or testing is recommended.

Jack Hodgson Consultants Pty Limited
CONSULTING CIVIL, GEOTECHNICAL AND STRUCTURAL ENGINEERS
ABN: 94 053 405 011

6.0 RECOMMENDATIONS

As no excavation is required except for the piered foundations for the secondary dwelling and no existing retaining walls are to be altered or removed the proposed new secondary dwelling and existing site conditions were considered and applied to the Council Flow Chart for class E area 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.

JACK HODGSON CONSULTANTS PTY. LIMITED.

Peter Thompson MIE Aust CPEng
Member No. 146800
Civil/Geotechnical Engineer

DIRECTOR: N. J. HODGSON
Unit 38B No 6 Jubilee Avenue, Warriewood NSW 2102
PO Box 389 Mona Vale NSW 1660
Telephone: 9979 6733 Facsimile: 9979 6926
www.jackhodgson.com.au