GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER

FORM NO. 1 – To be submitted with Development Application

Development Application for DA 2021/1083
Name of Applicant

Address of site 92 WARRIEWOOD ROAD, WARRIEWOOD

Declaration made by geotechnical engineer or engineering geologist or coastal engineer (where applicable) as part of a geotechnical report

I, Edward A Bennett on behalf of CIVIL & STRUCTURAL ENGINEERING DESIGN SERVICE PTY LTD
(Insert Name) (Trading or Company Name)

on this the 31ST AUGUST 2021 certify that I am a geotechnical engineer or engineering geologist or coastal engineer as defined by the Geotechnical Risk Management Policy for Pittwater - 2009 and I am authorised by the above organisation/company to issue this document and to certify that the organisation/company has a current professional indemnity policy of at least $2million.
I:

Please mark appropriate box

☐ have prepared the detailed Geotechnical Report referenced below in accordance with the Australia Geomechanics Society's Landslide Risk Management Guidelines (AGS 2007) and the Geotechnical Risk Management Policy for Pittwater - 2009

☐ am willing to technically verify that the detailed Geotechnical Report referenced below has been prepared in accordance with the Australian Geomechanics Society's Landslide Risk Management Guidelines (AGS 2007) and the Geotechnical Risk Management Policy for Pittwater - 2009

☐ have examined the site and the proposed development in detail and have carried out a risk assessment in accordance with Section 6.0 of the Geotechnical Risk Management Policy for Pittwater - 2009. I confirm that the results of the risk assessment for the proposed development are in compliance with the Geotechnical Risk Management Policy for Pittwater - 2009 and further detailed geotechnical reporting is not required for the subject site.

☑ have examined the site and the proposed development/alteration in detail and I am of the opinion that the Development Application only involves Minor Development/Alteration that does not require a Geotechnical Report or Risk Assessment and hence my Report is in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009 requirements.

☐ have examined the site and the proposed development/alteration is separate from and is not affected by a Geotechnical Hazard and does not require a Geotechnical Report or Risk Assessment and hence my Report is in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009 requirements.

☐ have provided the coastal process and coastal forces analysis for inclusion in the Geotechnical Report

Geotechnical Report Details:

Report Title: GEOTECHNICAL ASSESSMENT AT 92 WARRIEWOOD ROAD WARRIEWOOD, D-11-268943
Report Date: 19TH JULY 2021
Author: EDWARD A BENNOTT
Author's Company/Organisation: CIVIL & STRUCTURAL ENGINEERING DESIGN SERVICES PTY. LTD

Documentation which relate to or are relied upon in report preparation:

SURVEY & PLANS BY HIGH DESIGN
SITE INSPECTION

I am aware that the above Geotechnical Report, prepared for the abovementioned site is to be submitted in support of a Development Application for this site and will be relied on by Pittwater Council as the basis for ensuring that the Geotechnical Risk Management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure, taken as at least 100 years unless otherwise stated and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk.

Signature .....
Name ..... EDWARD A BENNOTT
Chartered Professional Status..... PER 198230
Membership No. 198230
Company CIVIL & STRUCTURAL ENGINEERING DESIGN SERVICES PTY. LTD

Civil & Structural Engineering Design Services Pty. Ltd.

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19th July 2021

Sasha Cvijanovic
92 Warriewood Road
WARRIEWOOD NSW 2102

D-11-268943

Dear Sir & Madam,

Re: Statement in Support of DA 2021/1083 and Geotechnical Assessment at 92 Warriewood Road, Warriewood

INTRODUCTION

I, Edward A Bennett, practicing Civil, Structural, Geotechnical & Environmental engineer, hereby confirm that I have inspected the above site, subject of a Residential Development Proposal and Application DA 2021/1083 and confirm that by review of Council's Policy, wherein the owner has received notice from Council, requiring further information in respect to:

3. **Geotechnical Report – Excavation (PLEP 2014).**
A Geotechnical Report as the proposed development involves an amount of excavation greater than 1.5m for swimming pool.

The report is to be prepared by a suitably qualified geotechnical consultant.

And as this site is not within a geotechnical hazard zone, refer Appendix "A", a full geotechnical report will **NOT** be required.

This is also confirmed under Appendix 5, Geotechnical Risk Management Policy for Pittwater – 2009, part 6.2, below:

6.2 Minor Development, Minor alternations and/or Development separate from a Geotechnical Hazard
For minor development, minor alteration and/or Development separate from and is not affected by a Geotechnical Hazard, the Geotechnical Engineer/Engineering Geologist may determine that a detailed Geotechnical Report is not required. This must be justified as a clear professional opinion with the supporting basis on which the opinion was formed and must be certified on Form 1.

PROPOSED DEVELOPMENT

The proposed development consists of Construction of Alterations & Additions and a reinforced concrete in-the-ground swimming pool where excavation works are likely to be greater than 1.5m deep, which is needing to be addressed as additional information.

These works may include minor excavation and new piered/piled footing systems to be founded into underlying shale/rock with minimum bearing capacity of **500kPa** for all structural components of the new works. At present the Structural Details have yet to be provided but will be consistent with my findings.

DESCRIPTION OF SITE & SURROUNDING AREA

The area of the development is bounded by the Front Southern, Eastern, Western and Northern boundaries of 92 Warriewood Road, Warriewood, that has a downhill slope less than 5 degree (average) towards the Front Southern Boundary at Warriewood Road, from North to South, with most of the works being carried out at the rear of the existing dwelling structure.

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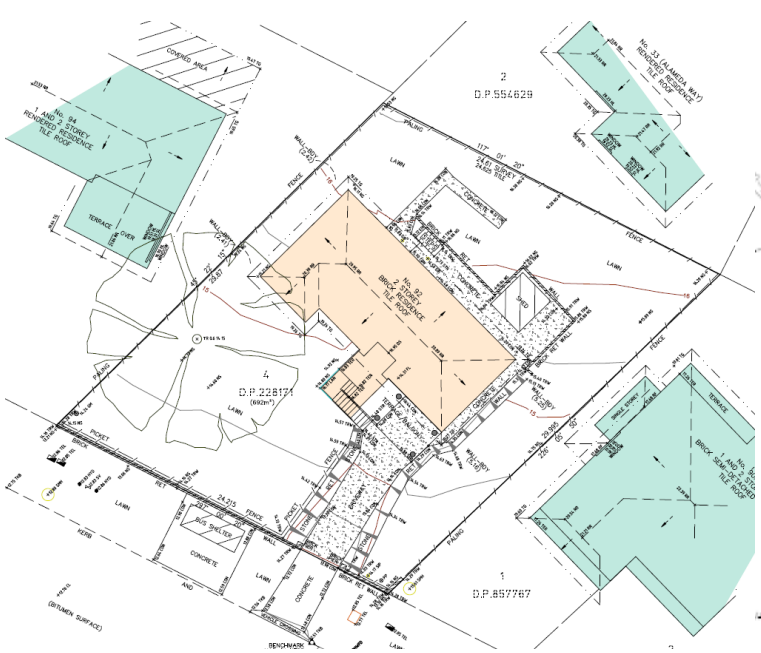
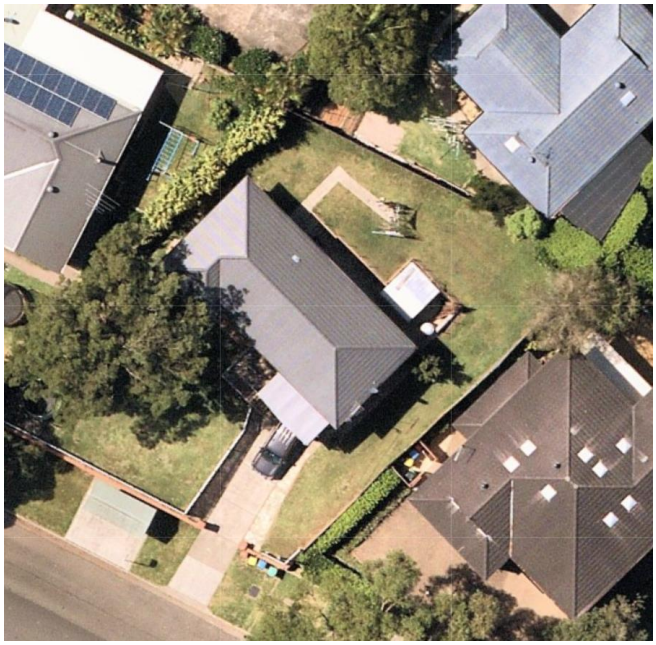
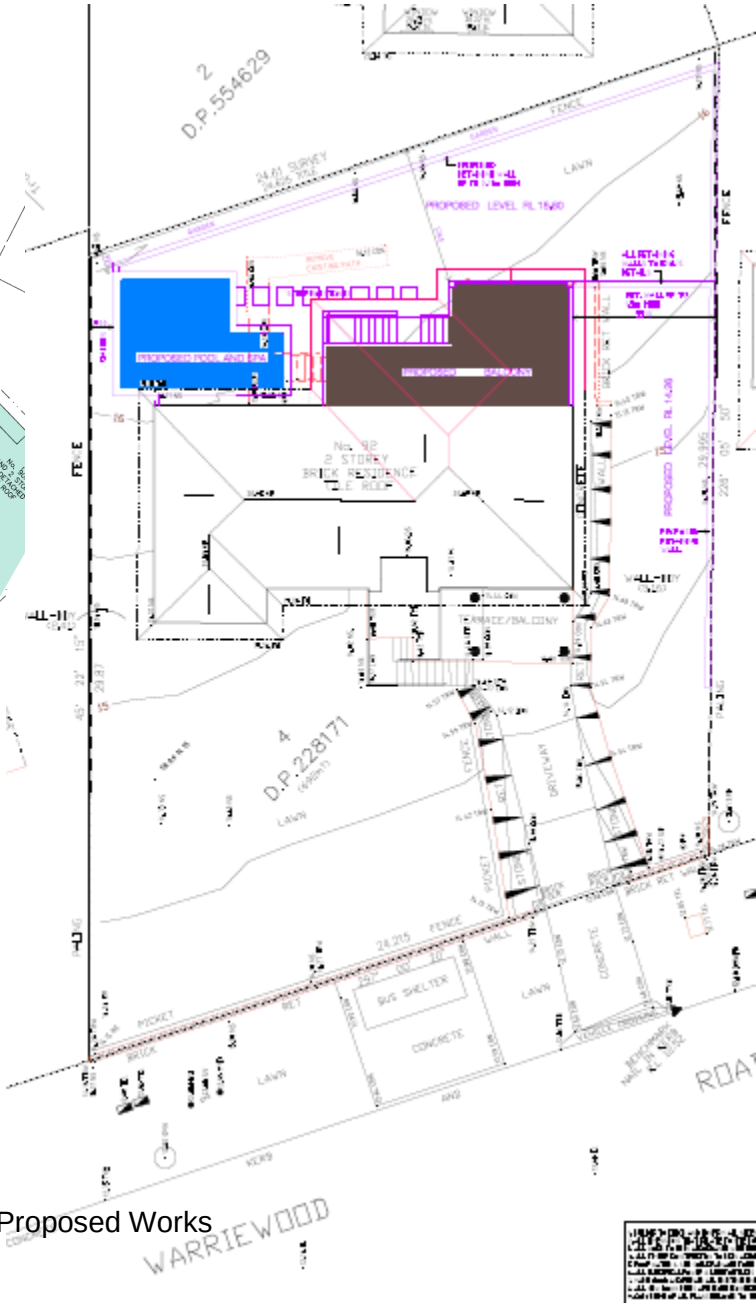


Survey plan of existing





Plan of Proposed Works

SITE GEOLOGY

The underlying site geology is a Mesozoic era sandstone containing medium to coarse-grained quartz sandstone with shale and laminate lenses. Refer to 1:100 000 Sydney geologic mapping for more details (available via references).

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From the observations from the site inspection, it was deemed unnecessary to perform any extra/special investigation of the underlying site geology.

RECOMMENDATIONS

In respect to the Swimming Pool excavation likely to more than 1.5metres deep, extra care must be taken to ensure that the excavation of the sides of the pool walls, do not collapse during these works and if extra protection is required, shoring shall be implemented immediately particularly if there is risk to a neighboring structure or fence.

Some practices which assist to mitigate risk are as follows and should be adhered to:

CLEARING - GOOD hillside practice

Provide siltation fencing and proper barriers between the side walls of the dwelling across to the western and eastern boundaries of the property and to avoid cross contamination or soils migrating to neighboring properties.

Provide a small diversion spoon drain or swale, across the rear northern boundary sloping towards the eastern side from approx. midway from the rear dwelling wall and the fence line at the rear, to collect and divert any surface run-off from the rear properties and avoid localised slippage from scouring effects of any excavations within that zone.

Cover any exposed rock faces to prevent loss of moisture and prevent risk to spall overnight.

EXCAVATION

The proposed Development does not require detailed excavation, apart from the swimming pool excavation, addressed above, as mechanical equipment will be employed. There is the likelihood that temporary shoring or underpinning will be necessary to prevent ground loss when excavating near or adjacent to cliff faces to, always ensure safety to the workers.

The excavation for the proposed structure(s) will not create a build-up of disposable material which, if not being utilised as on-site suitable fill, shall be placed in special stockpiles and be protected and maintained with suitable batters and cover so as not to be transported off-site by natural localised slippage or cause instability of existing batters through heavy rains before being used at a future date.

FOUNDATION MATERIALS AND FOOTINGS

It is recommended that all footings for the foundations to be supported on the underlying shale/rock using reinforced concrete piers where necessary. Allow for end bearing piers to penetrate the medium strength sandstone surface by at least 150mm. The allowable bearing capacity for the piers shall be not less than **500kPa**.

SUBSURFACE DRAINAGE

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Any retaining walls are to have adequate subsurface drains such as “strip drains” or sock covered agricultural pipes placed at the rear of the walls to prevent undue hydrostatic pressure.

INSPECTIONS

It is recommended that the rock jointing be discovered and inspected by the engineer. The foundation material and pier placement are to be inspected and approved prior to casting any concrete.

It is an obligation for the certifier/builder/contractor to organise the inspections noted above within 24 hours’ notice notwithstanding that the principal certifying authority and the structural engineer needs to be notified in advance.

ON-GOING MAINTENANCE

The property is to be maintained in good order and in accordance with the guidelines set out in CSRIO - BTF 18 “Foundation Maintenance and Footing Performance: A Homeowner’s Guide” and the Australian Geomechanics Article “Landslide Risk Management Concepts and Guidelines” May 2002.

All retaining walls are to be inspected at intervals not exceeding 20 years.

From evidence obtained during the site inspection, as well as assessment of existing geological data for the site, it has been determined that the proposed works will not adversely affect the geotechnical stability of the site.

Provided all recommendations above are adhered to, the works will be completed following good geotechnical and structural engineering practice.

The development will not cause detrimental impacts because of stormwater discharge from the land onto other properties.

A full geotechnical report is therefore deemed unnecessary for the proposed development.

Yours faithfully,

E.A. Bennett M.I.E. Aust. Cp Eng. NPER 198230, Member AGS, BPB 0820

REFERENCES

NSW Dept. of Resourced & Energy, “Sydney 1:100 000 Geological Map”, Accessed 16 July 2014 from <http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/geological-maps/1-100-000/sydney-1100-000-geological-map>

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Warringah Council eServices, Warringah Council Development Control Plan 2011, Part E10, Accessed 16 July 2014 from https://eservices1.warringah.nsw.gov.au/ePlanning/live/Public/XC.Plan/PlanningMapsEsri.aspx?cid=&a=&l=529

APPENDIX
"A"

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