

Memorandum

To	Manly Property Development Pty Ltd	Andrew MacBride	andrew@bennelong.com
cc			
From	Adam Teoh	Date	21 July 2023
Subject	Preliminary Acid Sulfate Assessment 61 North Steyne, Manly	Project No.	216903.04
		Doc No.	R.001.Rev0

We understand that Northern Beaches Council (NBC) has requested further comments on the likely presence of Acid Sulfate Soils on the site and the need for an Acid Sulfate Soils Management Plan (ASSMP) for the proposed development of 61 North Steyne Manly. The comments are requested in relation to the NBC MLEP Clause 6.1 Acid Sulfate Soils.

Douglas Partners has undertaken preliminary geotechnical and environmental assessments on 61 North Steyne Manly as below:

- Preliminary Site Investigation (Contamination) Ref 216903.00.R.001.Rev0, dated 30 August 2022.
- Preliminary Geotechnical Assessment Ref 216903.01.R.001.Rev0, dated 26 September 2023.

These preliminary assessments concluded that the site has a low probability of having Acid Sulphate Soils.

We have undertaken numerous projects in Manly over many years and have subsequently carried out further detailed reviews of our projects near the subject site. We have carried out ASS investigations with laboratory testing of soils samples to at least 6 m depth for the following nearby projects:

- Corner of Whistler Street and Denison Street, about 70 m to the north west of the subject site.
- 45 North Steyne, about 200 m south of the subject site.
- Recent testing for a major project further south of the subject site.

The above investigations encountered a similar ground profile (deep marine sand) and similar groundwater conditions (about RL1 m) and did not encounter ASS and the reports concluded that an ASS Management Plan (ASSMP) was not required.

The basement construction will require some temporary dewatering and lowering of the groundwater table. The basement is proposed to be constructed as a fully tanked basement which would have no permanent lowering effect on the groundwater table.

Based on the preliminary assessment, and the subsequent review of our archives, it is considered that ASS are unlikely to be present at the site and an ASS Management Plan is not required.

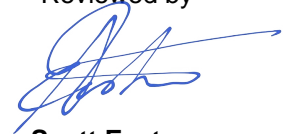
Further investigation should still be undertaken prior to the issue of a Construction Certificate, and if in the unlikely event ASS are present then an ASS Management Plan should be submitted for approval to the Consent authority prior to the issue of a Construction Certificate.

Douglas Partners Pty Ltd



Adam Teoh
Geotechnical Engineer

Reviewed by



Scott Easton
Principal

Attachments: About This Report

About this Report

Douglas Partners



Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

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Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;

- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.