

Our Ref: TERRA21-502 Let 1 Rev0

22 November 2021

Prepared for:  
Planning Lawyer Solutions  
Level 8, 65 York St  
SYDNEY NSW 2000

Attention: Mr M Hawell

RE: [No 60 Macleay Street, Narrawallee, NSW](#)  
Report on Findings of Acid Sulfate Soil investigation

Dear Sir,

TERRA has undertaken an acid sulphate soil investigation and assessment for the above Site. The findings of this investigation are documented within our report (ref: TERRA21-502 Rep 1 Rev 0).

For the volume of material proposed to be removed from the site, the NSW ASS guidelines require a formal treatment plan for ASS where the level of Net Acidity (% S) is greater than the following:

- Sands and loamy (clayey) sands: 0.03%.
- Sandy Loams (Sandy Clays) and light clays 0.06%
- Medium to heavy Clays 0.1%

The findings of the investigation included a Chromium Suite ASS test which indicates Net Acidity (%S) of soils underlying the site is typically 0.04% or lower with the acidity due to sulfur compounds reported at 0.009%. This sulfur based acidity includes all sulfur based acidity and not just that associated with ASS. As the levels are below the NSW EPA trigger level of 0.06% for the sandy clayey soils encountered on the site, a formal management plan is not required for the site.

However, as the soils do show some acidity most likely associated with organic content, it is recommended that the soils are treated with lime and classified as GSW in terms of disposal.

This letter must be read in conjunction with the attached document 'About Your Report' in Appendix A. Should you have any questions please contact the undersigned.

For and on behalf of Terra Insight



Karen Gates  
Principal Engineer/ Director  
CPEng MIEAust BEng MEngSc(Geot) MEnvMgt MBA



**These notes have been prepared to help you understand the advice provided in Your Report and its limitations.**

## Your Report is based on what you tell us

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Your Report has been developed based on the information you have provided such as the scope and size of your project. It applies only to the site investigated. If there are changes to the proposed works, then the advice provided within Your Report may need to be reviewed.

## Your Report is written with your needs in mind

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The advice provided within Your Report is also not relevant to another purpose other than that originally specified at the time the report was issued. Please seek advice from Terra Insight before you share Your Report with another third party – except for the purpose for which the report was written.

Terra Insight assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in Your Report.

## Your Report is based on what we observed

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The advice provided within Your Report assumes that the site conditions, revealed through selective point sampling (undertaken in accordance with normal practices and standards) at a particular point in time, are indicative of the actual conditions on your site. However, the nature of the materials underlying your site is affected by natural processes and the activity of man. Under no circumstances can it be considered that these findings represent the actual state at all points. The subsurface conditions may vary significantly on the other parts of the site, particularly where no nearby sampling and testing work has been carried out.

As a result conditions on your site can change with time; they can also vary spatially. As a result, the actual conditions encountered may differ from those detailed within Your Report. Although nothing can be done to change the actual site conditions which exist, steps can be taken to gain a better understanding of the subsurface conditions underlying your site and reduce the potential for unexpected conditions to be encountered.

The advice within Your Report also relies on interpretation of factual information based on judgement and opinion and has a level of uncertainty attached to it. Only Terra Insight is fully familiar with the background information needed to assess whether or not the report's recommendations are valid and whether or not changes should be considered as the project develops. If the details of your project have changed, the site conditions have changed or a significant amount of time has elapsed since our report was written, the advice provided within Your Report may need to be reviewed.

## Your Report has been written by a Professional

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The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

## Your Report is better when it is kept together

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Your Report presents all the findings of the site assessment and should not be copied in part or altered in any way. Keeping Your Report intact reduces the potential for yourself or other design professionals to misinterpret the report.

## Your Geo-Environmental Report

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If Your Report is for geotechnical purposes only, it will not relate any findings, conclusions, or recommendations about the potential for hazardous materials to exist at the site unless you have specifically asked us to do so. If your report is written for Geo-Environmental purposes the following should be noted in addition to the above:

- Advancements in professional practice regarding contaminated land and changes in applicable statutes and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in Your Report should be verified if you propose to use this report more than 6 months after its date of issue;
- Your Report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. The assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, which includes budget and timing;
- The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice. Any interpretation in Your Report is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment.
- We may have relied on data and other information provided by you and other qualified individuals in preparing Your Report. We have not verified the accuracy or completeness of such data or information except as otherwise stated in Your Report. For these reasons Your Report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.
- For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination posed in the context of the agreed purpose. If the proposed use of the site changes, the assessment may no longer be valid and will need to be reviewed.

\* For further information on this aspect reference should be made to "Guidelines for the Provision of Geotechnical information in Construction Contracts" published by the Institution of Engineers Australia, National headquarters, Canberra, 1987.