



## **GeoEnviro Consultancy Pty Ltd**

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18<sup>th</sup> December 2017

Our Ref JC16261A-L2

Catholic Education Diocese of Wollongong  
C/- JDH Architects  
Suite 4b, Level 4  
116-120 Kippax Street  
SURRY HILLS NSW 2010

Attention: Ms Rebecca Grinspum

Dear Madam

**Re Acid Sulphate Soil Comments  
St Francis Catholic College  
Lots 20 to 23 DP 29317 Jardine Drive Edmondson Park**

Further to our geotechnical and salinity investigation report referenced JC16261A dated May 2016, this letter presents our comments on potential acid sulphate soil within the site.

The following is a summary of site conditions based on our previous report;

- The site occupies 4 lots (ie Lots 20 to 23) and is situated on the south eastern corner of Jardine Drive in Edmondson Park as shown on Drawing No 1
- The site is situated on gently undulating terrain. Ground surface within the site has a gentle slope of about 2 to 6 degrees dipping in a general direction toward the north and north western corner of the site. Based on the survey drawing provided, ground surface at the south eastern corner of the site is at about Reduced Level (RL) 67.5m Australian Height Datum (AHD) and ground surface drops to about RL 60.5m at the northern corner of the site and RL 53.5m at the north western corner.
- The 1:100,000 Soil Landscape of Penrith Series 9030 prepared by the Soil Conservation Services of NSW indicates the site to be underlain by residual soil belonging to the Blacktown landscape group. Typically soil consists of low permeability, highly plastic and moderately reactive soil.
- The 1:100,000 geological map of Penrith Series 9030 indicates the underlying bedrock to consist of Bringelly shale of the Wianamatta Group consisting of shale, carbonaceous claystone, claystone, laminite, fine to medium grained lithic sandstone, rare coal and tuff.
- Fieldwork for the investigation was carried out on the 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> April 2016 and included drilling of 17 boreholes (BH 1 to 17) using a truck mounted B80 drill rig. The boreholes revealed the site to be generally underlying by natural Silty Clay of medium plasticity with ironstone gravels at lower depths and shale was encountered at depths ranging from 1.4 to 2.6m below ground surface.

- Soil samples were taken from the site for salinity analysis which included pH, Electrical Conductivity (Ec), Chloride (Cl), Sulphate (S04), Emerson and Particle Size Distribution. The laboratory test results indicate the subsurface soil to be as follows;

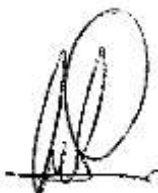
Topsoil	:0.35 to 1.3 dS/m – Non Saline
Upper 1.0m natural Clay	:0.42 to 3.44 dS/m – Non to Slightly Saline
Below 1.0m natural Clay	0.52 to 4.16 dS/m – Non to Moderately Saline

The laboratory test results indicated that the site is underlain by a clayey soil with low permeability in the order of 0.012m/day. The natural soil was assessed to be Very Sodic with ESP ranging from 17 to 27%. The subsurface soil was found to have low concentrations of Sulphate and Chloride with pH values ranging from 4.9 to 8.5.

Based on available data, we are of the opinion that the risk of acid sulphate soil impacting on the proposed development is considered low and therefore no acid sulphate soil management plan is required.

Should you need any further information please do not hesitate to contact the undersigned.

Yours faithfully  
**GeoEnviro Consultancy Pty Ltd**



Solern Liew MIEA CPEng NER  
Director

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