

6 April 2017
Ref No. 30243ZRlet

The Owners of 29, 31 and 33 Pacific Street and
23a, 23b and 25c Ocean View Drive, Wamberal, NSW
C/- Horton Coastal Engineering Pty Ltd
18 Reynolds Crescent
BEACON HILL NSW 2100

ATTENTION: Mr Peter Horton

ADDITIONAL GEOTECHNICAL ADVICE
PROPOSED COASTAL PROTECTION WORKS
29, 31 AND 33 PACIFIC STREET AND 23A, 23B AND 25C OCEAN VIEW DRIVE,
WAMBERAL, NSW

At your request, the undersigned completed an additional stability analysis using the SLOPE/W software package for the analysis section presented in our report (Ref. 30243ZRrpt Rev. 1) dated 3 March 2017, for the proposed coastal protection works at 29, 31 and 33 Pacific Street and 23a, 23b and 25c Ocean View Drive, Wamberal, NSW.

This additional analysis included an elevated groundwater level essentially at surface level (maximum RL8.5m AHD) on the landward side of the proposed coastal protection works, as indicated on the attached Figure A. The elevated groundwater level simulates an absolute 'worst case', and also includes a 0.5m depth of water as a surface surcharge on the landward side of the proposed coastal protection works.

The attached Figure A presents the output results from our analysis. The Factor Of safety (FOS) is approximately 1.3m which for an ultimate design case such as this, is considered to be satisfactory.

This is an absolute 'worst case' groundwater level and also includes a 0.5m depth of water as a surface surcharge. However, we do not consider this scenario to be realistic as the overtopped waters will drain from the site over the surface at a faster rate than they will infiltrate into the ground. We remain of the view that the adopted design groundwater levels presented in our report are appropriate.

However, we do not consider this scenario to be realistic as the overtopped waters will drain from the site over the surface at a faster rate than they will infiltrate into the ground. We remain of the view that the adopted design groundwater levels presented in our previous report dated 3 March 2017 are appropriate.

Should you require any further information regarding the above, please do not hesitate to contact the undersigned.

Yours faithfully
For and on behalf of
JK GEOTECHNICS



Paul Roberts
Senior Associate | Engineering Geologist

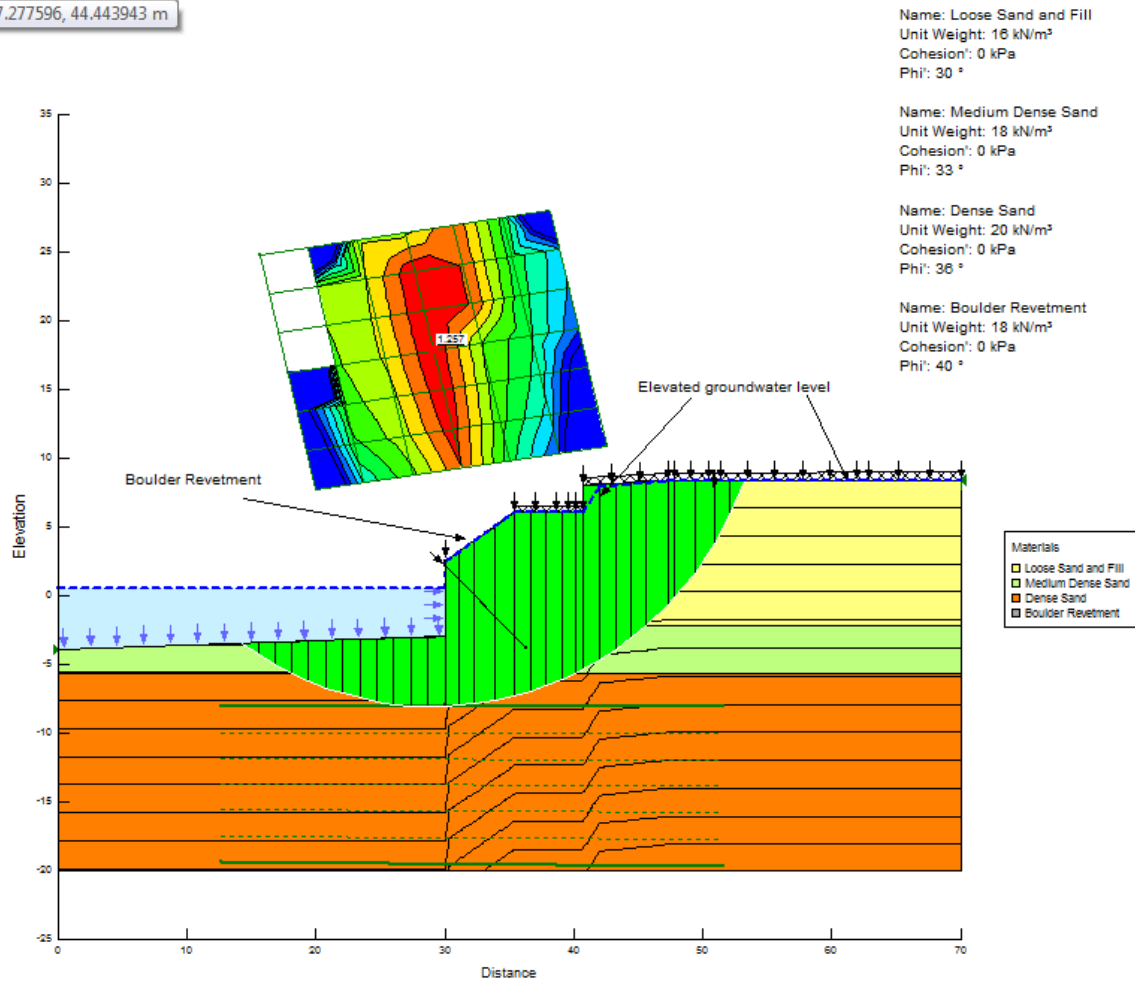


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THEORETICAL SLIP CIRCLE – GLOBAL FAILURE PILE TOE AT RL – 8m WITH ELEVATED GROUNDWATER LEVEL

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