

REPORT

TO PERISHER BLUE PTY LTD.

ON

GEOTECHNICAL ASSESSMENT

FOR **PROPOSED SCREEN FENCING**

AT

BULLOCKS FLAT SEWERAGE TREATMENT PLANT, PERISHER VALLEY, NSW

10 November 2014 Ref: 27811RH7rpt

JK Geotechnics

ECTECHNICAL & ENVIRONMENTAL ENGINE

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Figure 1: Location of Proposed Screen Fencing

1 INTRODUCTION

This report presents the results of a geotechnical assessment for the proposed screen fencing near the sewerage treatment plant at Bullocks Flat, Perisher Valley, NSW. The assessment was commissioned by Mr Craig Parker of Perisher Blue Pty Ltd (PB) in an email sent on 2 October 2014. The commission was on the basis of the hourly rates presented in our proposal, Ref: P39395RH, dated 1 October 2014.

To assist with our assessment, we have been supplied with a 'Statement of Environmental Effects' report prepared by Dabyne Planning (Project Reference: 36-14-C, dated October 2014).

Based on the supplied report and our discussions during a walkover inspection of the site with Mr Craig Parker of PB, we understand that a new approximate 105m long chain wire fence is proposed. The fence will comprise wire mesh between 2.1m high posts spaced at 2.5m intervals. The posts will be supported by concrete footings embedded about 0.5m into the ground.

The purpose of the geotechnical assessment was to carry out a walkover inspection of the site and to determine whether the proposed works present minimal or no geotechnical impact on the site, and if so, to complete a signed Form 4 – Minimal Impact Certification. Based on our assessment, we would determine whether a further geotechnical report, which includes a risk assessment, would be required.

This report has been prepared in accordance with the requirements of the Geotechnical Policy for Kosciuszko Alpine Resorts (2003). It is understood that this report will be submitted as part of the Development Application documentation.

2 ASSESSMENT PROCEDURE

The assessment was carried out by our Senior Associate level geotechnical engineer (Adrian Hulskamp) on 8 October 2014. The assessment comprised a walkover inspection of the topographic, surface drainage and geological conditions of the site and its immediate environs.

Where access was possible, measurements were made with a tape measure and hand held clinometer, otherwise they were estimated. Should any of the features be critical to the proposed development, we recommend they be located more accurately using instrument survey techniques.

Record photographs of the site were taken and one has been included in this report. No subsurface investigations were carried out as part of this assessment.

3 RESULTS OF THE ASSESSMENT

Based on our site observations during our walkover inspection, the proposed screen fence is located in a relatively flat area, adjacent to a creek. The site was used as a maintenance and storage depot.

A grass covered fill mound was located on the northern and eastern sides of the depot and had a maximum height of about 1.5m above surrounding ground surface levels, as shown in Plate 1 below. The sides of the fill mound sloped down between about 17° and 30°. No obvious signs of fill batter slope instability were observed, such as tension cracks along the crest, slumping, groundwater seepage through the fill mound etc. The proposed screen fencing is to be located along the crest, or partway down the sides, of the fill mound.



Plate 1: Looking east showing existing maintenance depot and fill mound in background.

The drainage conditions across the maintenance depot site appeared to be relatively good.

4 COMMENTS AND RECOMMENDATIONS

Based on our walkover inspection, we consider that the proposed screen fencing will constitute 'minimal or no geotechnical impact' on the site. Therefore, we consider that a geotechnical report prepared in accordance with the Geotechnical Policy for Kosciuszko Alpine Resorts (2003) is not required. This report is preceded by the completed Form 4 – Minimal Impact Certification.

Based on our site observations, the site has been filled. We have no records that document the manner of placement, compaction specification and control of the fill. Hence, the fill is deemed not to be a 'structural' fill as defined in Clause 1.2.13 of AS3798-2007. As the site is underlain by potentially more than 0.8m of 'uncontrolled' fill, the site is Class 'P', in accordance with AS2870-2011. The standard footing designs in AS2870-2011 are not relevant to a Class 'P' site nor to fencing and therefore design of the footings will need to be carried out by engineering principles.

We recommend that the following be taken into account during the design and construction phase:

- The proposed footings must be designed for a maximum allowable bearing pressure of 50kPa.
- The stability and lateral toe restraint for the fence post footings may be achieved by embedding the footings to sufficient depth below the ground. To check the current embedment depth design is sufficient, a triangular lateral earth pressure coefficient should be adopted with a "passive" earth pressure coefficient, K_p, of 1.5, assuming the ground surface adjacent to the footing slopes down at about 30°. If the footing is deepened to the base of the fill mound, such that the ground surface slopes along the toe of the mound no steeper than about 15°, the "passive" earth pressure coefficient, K_p, may be increased to 2.5. We note that significant deflection is required in order to mobilise the full passive resistance of a soil and therefore a factor of safety of at least 2 should be adopted.
- If there is any concern as to the quality of the founding materials, then further geotechnical advice must be sought.
- All footing excavations must be 'dry' and cleaned out of loose material, prior to pouring of concrete.

5 GENERAL COMMENTS

The recommendations presented in this report include specific issues to be addressed during the construction phase of the project. In the event that any of the construction phase recommendations presented in this report are not implemented, the general recommendations may become inapplicable and JK Geotechnics accept no responsibility whatsoever for the performance of the structure where recommendations are not implemented in full and properly tested, inspected and documented.

Occasionally, the subsurface conditions may be found to be different (or may be interpreted to be different) from those expected. Variation can also occur with groundwater conditions, especially after climatic changes. If such differences appear to exist, we recommend that you immediately contact this office.

This report provides advice on geotechnical aspects for the proposed civil and structural design. As part of the documentation stage of this project, Contract Documents and Specifications may be prepared based on our report. However, there may be design features we are not aware of or have not commented on for a variety of reasons. The designers should satisfy themselves that all the necessary advice has been obtained. If required, we could be commissioned to review the geotechnical aspects of contract documents to confirm the intent of our recommendations has been correctly implemented.

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