SOIL PERMEABILITY ASSESMENT AND REPORT

Date 11/11/2021
Our Reference 95572M
Builder Reference KASMAR - 2015939
Location 54 YARRABINM STREET BELROSE

Prepared by Rafeletos Zanuttini Pty Ltd

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INTRODUCTION

At your request, Rafeletos Zanuttini Pty Ltd have undertaken a geotechnical assessment at the abovementioned property.

The purpose of the investigation was to assess the soil permeability and absorption rate of the underlying soil profile for the design of a stormwater system to local council requirements.

This report provides some general comments on the site's suitability for a proposed soil absorption system to manage stormwater from the proposed development. Included is an estimate of soil permeability for design purposes.

The recommendations and results provided here are based on limited subsoil investigations and should be used with appropriate caution. Should excavations uncover subsoil conditions that are significantly different from these expected in this report, we should be contacted immediately for reappraisal.

METHODOLOGY

The site was inspected by an engineer from our office and assessed for a range of general drainage constraints and to identify a preferred location for a soil absorption system. Subsoil conditions were investigated by excavation of a borehole and an indicative disturbed soil sample was taken for laboratory testing.

Soil texture, structure, and other soil profile characteristics were assessed and recorded. Then, saturated hydraulic conductivity and soil permeability was assessed by using the falling head permeability test in accordance with AS1289-2001. The results were then cross-checked with widely accepted values for similar soils. The permeability calculated from the falling head permeability tests equated to a soil absorption rate in the range of 0.33 to 0.39 liters per second per square meter. This rate applies to the soil profile encountered below the topsoil on the subject property.

RECOMMENDATIONS

We recommend the sizing of any storm water absorption system for the abovementioned site be designed at an absorption rate of 0.33 l/sec/m2.

The absorption system should be designed to incorporate controlled overflow provisions in the event of larger storms where possible. It should be located a minimum of three meters from any boundary and where in the vicinity of existing or proposed driveways, pools, retaining walls or other structures, a structural assessment is to be undertaken to ensure no additional loads are applied to the absorption trench and any localized effects of the absorption system are taken into consideration.

Yours faithfully

David Zanuttini
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NPR Structural, Civil, Geotechnical, Environmental