Date: 2 November 2020
Ref: 31892YElet

Newark Constructions Pty Ltd
26 Jamieson Parade
COLLAROY NSW 2097

Attention: Mr Grant Newark
Email: newark_constructions@bigpond.com

NORTHERN BEACHES COUNCIL SECTION 4.55 APPLICATION
PROPOSED ALTERATIONS AND ADDITIONS
22 HAY STREET, COLLAROY, NSW

This letter has been prepared in response to an email dated 20 October 2020 from Mr Grant Newark of Newark Constructions in relation to a recent Section 4.55 Application to modify a development consent at the above site. We understand the application to Northern Beaches Council (NBC) requires an "updated geotechnical report to reflect the Modification Application (this may be a cover letter stating no changes effect original report)".

JK Geotechnics (JKG) previously completed both a walkover assessment and subsurface investigation at the above site. The purpose of the walkover and investigation was to identify slope stability hazards, assess the geotechnical risks posed by the hazards and determine the ground conditions in order to provide geotechnical recommendations with regard to the proposed development. The results of the walkover assessment and investigation were presented in our geotechnical report (Ref. 31892Yrpt Rev 1 dated 20 August 2019). JKG returned to site in August 2020 to inspect the piling works for the proposed suspended carport in the western corner of the property.

We have been provided with additional architectural drawings (Project Reference. 2033, Drawing Nos. DA01^{B} to DA10^{B}, NP01^{B} and NP02^{B}, all dated 30 September 2020) prepared by KvB Drafting Services (KVB) to support the Section 4.55 Application. Based on our review of the drawings, we understand that changes to the original proposed alterations and additions include the following:

- Two new 1,800L rainwater tanks located below the proposed suspended carport in the western rear yard.
- Removal of the pool equipment and timber deck at the southern end of the existing suspended swimming pool.
- Extension of the suspended swimming pool shell approximately 5.4m further to the south. We have assumed that no excavation, other than detailed excavation for footings, will be required for the extension.
- Construction of a suspended pool terrace at RL43.82m surrounding the new pool extension.

- Construction of a suspended timber deck at RL42.01m adjacent to north-eastern side of the new pool terrace.
- Internal modifications within the ground and first floors of the existing house.

With regard to the proposed external alterations and additions listed above, the comments and recommendations provided in our geotechnical report remain relevant, however further geotechnical advice specific to the proposed works are required as detailed below:

- Due to the moderately sloping ground surface levels below the proposed carport, and the susceptibility of clayey soils to experience long term creep movements, the proposed rainwater tanks must be supported by footings uniformly founded on the underlying sandstone bedrock. We understand that the bored piles installed to support the proposed carport are founded in sandstone bedrock and could be utilised for this purpose, however Peninsula Consulting Engineers should be contacted for further structural advice in this regard. If the existing piled footings cannot support the proposed rainwater tanks, additional bored piles will be required in this area.
- Following removal of the existing timber deck in the southern portion of the site and prior to the swimming pool extension being constructed, a geotechnical engineer must inspect the concrete block boundary retaining wall in this area of the site. The purpose of the inspection is to confirm that the proposed works will not destabilise any portion of the boundary wall resulting in damage to the neighbouring property. The footing details and foundation materials of the suspended pool should also be confirmed during the inspection.
- All footings for the proposed structures must be supported on bored pile footings uniformly founded on the underlying sandstone bedrock.

Footings founded on sandstone bedrock of at least low strength may be designed for an allowable bearing pressure of 1,000kPa. As detailed in Section 5.2 of our geotechnical report:

"Prior to pouring concrete, all footings should be free from all loose and softened materials and should be inspected by a geotechnical engineer to confirm that the design ABP has been achieved. Due to the poor quality of the sandstone bedrock, where water ponds in the base of the footing it will soften the bedrock and no longer be suitable for an ABP of 1,000kPa. Where this occurs the footing will need to be re-excavated to remove all loose and softened materials. Where a delay in pouring is anticipated, a concrete blinding layer may be poured to protect the base of the footing following excavation, cleaning and inspection by a geotechnical engineer."

Consequently, provided the comments and recommendations set out in our geotechnical report (Ref. 31892Yrpt Rev 1 dated 20 August 2019) and this letter are followed, we consider that the above proposed alterations and additions may be undertaken.

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

Michael Egan
Senior Geotechnical Engineer