
Sent: 29/05/2021 10:53:33 AM
Subject: DA2021/0419
Attachments: Peer Review for 264 Whale Beach Road.pdf;

[DA2021/0419](#)

Application Type: Development Application
Demolition - Demolition works and construction of a dwelling house
Address: **266 Whale Beach Road WHALE BEACH NSW 2107**

To whom it may concern ,

Please find attached peer review of Geotec report in support of our objections re the development of 266 Whale Beach Rd - DA2021/0419.

We would again request height poles be immediately installed in support of the objection by residents in Norma Rd as per submissions.

Regards

Geoff + Ann Godden
264 Whale Beach Rd

Sent from [Mail](#) for Windows 10

Your ref:
Our ref: 12552659

28 May 2021

G.A. Godden
264 Whale Beach Road
Whale Beach NSW 2107

Peer Review – Geotechnical Assessment Report for 266 Whale Beach Road, Whale Beach

Dear Geoff,

At your request, we have reviewed the supplied Geotechnical Assessment Report prepared by JK Geotechnics (JKG) as part of the DA submission for the proposed development at 266 Whale Beach Road, Whale Beach, NSW. We note that we have not visited the site or reviewed any other information other than the JKG report.

The objectives of our review are to assess the likely impact of the proposed excavation at 266 Whale Beach Road on your property and to comment on potential restrictions on any future development of your property.

1. Supplied Information

Our review has been based solely on a review of the following document:

- JK Geotechnics Geotechnical Assessment Report for “Proposed New House at 266 Whale Beach Road, Whale Beach, NSW” dated 7 July 2020 (Ref: 33313Zrpt).

2. Background and JKG Recommendations

We understand that you are the owner of the property on 264 Whale Beach Road, Whale Beach. The proposed development on 266 Whale Beach Road, Whale Beach (development site) is situated immediately to the east of your property.

The development site and your property are located on the northern uphill side of Whale Beach Road. The house on your property is a three-storey building and partly abuts the boundary with the development site.

We understand that the proposed development will comprise a three-storey house over a part in-ground ground floor level. The construction of the ground floor level will require a maximum excavation depth of approximately 6m. Further, the proposed excavation will extend to as close as 1m from the side boundaries. Since your house abuts the site boundary, the proposed excavation will be approximately 1m away from your house.

The JKG report recommended that temporary batters for the proposed excavation should be no steeper than 1 Vertical (V) in 1 Horizontal (H) within the soil profile and extremely weathered rock. Where the required batters cannot be accommodated within the site geometry, a retention system would be required. JKG anticipated that most, if not all, excavations over about 1m in depth will require this type of support.

They further recommended the retention system to comprise an anchored soldier pile wall with reinforced shotcrete infill panels. Details of the anchored soldier pile wall system have not been provided in the JKG report. Nevertheless, JKG recommended that the anchors should have a bond length of at least 3m and a free length within the 'active' wedge, i.e. the total anchor length will be the sum of the bond length and the free length.

JKG also noted that *"Where anchors are to run below adjoining properties, then the permission of the owners must be obtained before installation."*

With regard to disturbance during construction, JKG recommended that ground vibration during construction measured as peak particle velocity must not exceed 5mm/sec along the eastern and western site boundaries. Furthermore, JKG recommended that dilapidation surveys must be carried out on the neighbouring buildings and structures to the east and west.

One other JKG recommendation that could affect your property involved surface water discharge from the proposed development. They recommended that the water must be diverted to outlets for controlled discharge to the existing stormwater system. Details of the water discharge system have not been included in the JKG report for our review.

3. Subsurface Conditions

The JKG report referenced a report prepared by Jack Hodgson Consultants Pty Ltd in 2008 (Ref: VT 25934) for the geotechnical investigation carried out on the development site. JKG noted that two cored boreholes and one hand augered borehole were drilled at the development site. JKG also noted that the boreholes were terminated at depths of up to approximately 5m, i.e. above the proposed excavation level.

Based on the JKG report, the subsurface profile at the development site comprises *"colluvial and residual sandy clays and clays of low plasticity and variable strength"*. However, because of the limited depth of borehole drilling, the vertical extent of the sandy clays and clays is not known.

JKG noted that based on the 1:100,000 geological map of Sydney, the underlying bedrock should comprise interbedded sandstone, siltstone and shale of the Narrabeen Group. Nevertheless, without the borehole drilled into the bedrock, the nature and conditions of the bedrock cannot be confirmed.

4. Review Comments

Based on our review of the JKG report, our comments on the potential impact of the proposed development on your property are as follows:

- JKG has conducted a risk assessment of potential slope instability. However, the various potential landslide hazards JKG considered were related to slope instability within the proposed development site at 266 Whale Beach Road. No potential impact on adjacent properties has been included in the JKG risk assessment.
- The proposed excavation adjacent to your property will be mostly, if not all, in a soil profile of variable strength. According to the JKG recommendation, temporary batters no steeper than 1 Vertical (V) in 1 Horizontal (H) should be adopted where acceptable. For the proposed maximum excavation depth of 6m, the temporary batter will need to extend at least 6m horizontally from the excavation face. With your house located at about 1m from the proposed excavation, the temporary batter option will undermine your house and is obviously unacceptable.
- Where temporary batter is not feasible, JKG recommended a retention system using an anchored soldier pile wall with reinforced shotcrete infill panels. The anchor lengths will be at least 3m and most likely longer when free lengths are included. The anchors will therefore run below your property. As noted in the JKG report, your permission must be obtained before the installation of anchors within your property.

- We note that the installation of the anchors could cause ground movement (collapse settlement or lateral displacement) during the installation process. Excessive ground movement could induce cracking or damages to your house.
- Furthermore, it should be noted that the presence of anchors in the long-term will pose restrictions to any future development or improvement on your property, such as basement construction, pile installation, trench excavation, etc.
- While it is possible to select a different retention system that does not require anchors, such retention system must be designed and constructed appropriately in order to minimise any impact on your property. No other retention system has been proposed in the JKG report.
- As noted by JKG, one possible impact on adjacent properties could be ground vibration during construction. In this regard, we consider that the maximum peak particle velocity of 5mm/sec recommended by JKG to be appropriate. This vibration limit should be adopted for all construction activities, regardless of whether it is caused by rock excavations or not.
- We also concur with the JKG recommendation that any surface water discharge must be carried out in a controlled manner and should not allow the surface water to flow onto your property. JKG also recommended that any existing and proposed surface and subsurface drains must be subject to ongoing and regular maintenance.

We trust that the above review comments are sufficient for your consideration of the DA application. Please contact us if you require any further assistance.

Regards



Kim Chan
Senior Technical Director - Geotechnics

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