Ref: P2474_05
1/09/2023

Morrow Geotechnics Pty Ltd ABN 42 605 892 126
79/6 Bellambi Lane, Bellambi NSW 2518
2/5-7 Malta Street, Fairfield East NSW 2165
E: info@morrowgeo.com.au
P: 0405 843 933

Geotechnical Letter
34-35 South Steyne, Manly NSW

Geotechnical Letter

Morrow Geotechnics Pty Ltd is acting as Geotechnical & Hydrogeological Engineers providing geotechnical and hydrogeological advice for the proposed works at 34-35 South Steyne, Manly NSW. This letter has been prepared in response to a stop the clock notice from WaterNSW reference IDAS1150821 dated 14 August 2023.

The following reports have been prepared for the site:

- Morrow Geotechnics Pty Ltd, Geotechnical Investigation Report, *34-35 South Steyne, Manly NSW*, referenced P2474_01, and dated 14 March 2022 (MG 2022);
- Morrow Geotechnics Pty Ltd, Geotechnical Investigation Report, *34-35 South Steyne, Manly NSW*, referenced P2474_01 rev 01, and dated 29 March 2023 (MG 2023_01);
- Morrow Geotechnics Pty Ltd, Finite Element Analysis Report *34-35 South Steyne, Manly NSW*, referenced P2474_02, and dated 29 March 2023 (MG 2023_2); and
- Morrow Geotechnics Pty Ltd, Dewatering Management Plan, *34-35 South Steyne, Manly NSW*, referenced P2474_04, and dated 14 June 2023 (MG 2023_03).

The previous geotechnical reports present the results of a site investigation for the proposed development and geotechnical recommendations for design and construction.

The WaterNSW RFI covered three areas:

1) **Confirmation of the proposed basement construction design, being either tanked (fully watertight) or drained (requiring permanent ongoing dewatering).**

The basement is proposed to be designed as a tanked basement (fully watertight).

2) **If a tanked basement design is proposed, the following information is requested.**
   (i) Volume of water to be extracted annually if available.
   (ii) Duration of the water take for dewatering if available.
   (iii) Method of measuring the water take and recording.

A tanked basement is proposed for the site. Final structural drawings have not yet been prepared for the site, however the following information has been determined based on preliminary assessments and an initial 3 month monitoring period:

i) The volume of water to be extracted annually during the initial construction period is 32.0 ML/year. The volume of water to be extracted in the final form of the building following construction is zero.

ii) The duration of water take is expected to be less than 6 months during construction prior to basement tanking.

iii) The water take will be measured through a flow meter at the discharge point of the site. Final dewatering design will be completed following the preparation of CC structural designs for the basement and shoring.

3) If a drained basement design is proposed, WaterNSW and the Department of Planning and Environment -Water (DPE) will require additional modelled data to support a hydrogeological review and assessment. The Geotechnical report (or equivalent) will need to be updated accordingly and satisfy requirements detailed in the below Table 1 Modelling Inputs.

A drained basement is not proposed.

For and on behalf of Morrow Geotechnics Pty Ltd,

Andrew Butel
Hydrogeologist/Engineering Geologist
BSc (Geology) GradCertEngSc MAIG

Alan Morrow
Principal Geotechnical Engineer
BE (Civil) BSc MIEAust CPEng NER (2474672)