Date: 17 July 2024
Ref: 32463BM Site Report 8

Site Report

Lovett Custom Homes
29/14 Polo Avenue
Mona Vale, NSW 2103

Attention: Cameron Lovett
Email: cameron@lovettcustomhomes.com.au

GEOTECHNICAL INSPECTIONS- LANDSCAPE RETAINING WALL FOOTINGS
PROPOSED ALTERATIONS AND ADDITIONS
191 WHALE BEACH ROAD, WHALE BEACH, NSW

As requested, our Associate Geotechnical Engineer, Mr Matthew Pearce, visited the above site on 11 and 12 July 2024 to inspect the material in the base of the footing excavations for the proposed landscape retaining wall footings located on the seaward (eastern) side of the house. A Site Plan is attached showing the area inspected and a sketch plan showing the footings inspected. This site report confirms discussions on site with Cameron Lovett of Lovett Custom Homes and should be read in conjunction with our Geotechnical Assessment Report dated 11 September (Ref. 32463BMrpt), and letters dated 25 March, 8 and 26 April 2022, and previous site reports.

Landscape Retaining Wall Footings

From review of architectural drawing(CD-600_36 undated) and provided unreferenced structural sketch plan, section and elevations (file name '3 July Doc 1', reported to have been prepared by ROR Engineers), we understand that the proposed raised lawn located to the east of the house, at about first floor level will be supported by terraced dincel retaining walls on the western, northern and eastern sides. The retaining walls will be supported by continuous footing slabs generally constructed at ground floor level. On the western side of the raised lawn the footing slab will extend about 2m across to the recently constructed ground floor slab. On the northern side, the footing slab will extend 3.5m beneath two terraced planter beds (formed by a 0.5m high sandstone log wall and a 2.1m high dincel wall). On the eastern side the footing will be about 1.1m wide. No bearing requirements were provided for the footings, however in accordance with our geotechnical report we advised that all footings are to be founded on bedrock to mitigate landslide risks, and can be designed for an allowable bearing capacity of 800kPa.

Prior to our arrival on 11 July, the minimum excavation had been carried out to accommodate the footing slabs but the material at the base was variable and bedrock had not uniformly been exposed.

On the western side of the proposed raised lawn, (to the east of the house) a near vertical excavation of up to 3.5m height had been completed. The material exposed was assessed to be (from top to bottom) about 0.5m of clayey fill, over about 0.5m of residual silty clay and then weathered shale and sandstone bedrock of typically very low strength but within higher strength iron indurated bands (Newport Formation bedrock). While there were no adversely orientated defects observed, this material should be temporarily battered back to safe batter slopes of no steeper than 1V(vertical):1H(horizontal). Where this is not carried out the retaining walls must be constructed without delay and should any signs of instability be observed we must be contacted immediately for further advice. No surcharges should be placed near the crest and persons must spend only minimal time near the toe or crest of the cutting. The material at the base of the excavation was bedrock except at the northern end where the material transitioned to residual soil.

At the northern end of the proposed raised lawn, a batter slope of about 2m in height had been formed. The material at the base was assessed to be residual silty clay.

In our presence some test piers were excavated through the residual soil to check the depth to rock, with distinctly weathered sandstone of very low strength encountered from 0.4m to 0.8m depth below the northern bench level.

From an email dated 12 July 2024 from Cameron Lovett, we understand the structural engineer had designed 450mm wide strip footings to bedrock directly under the Dincel retaining walls and 450mm diameter piers to rock at 1m centres under the lower stone log planter bed retaining wall, following our advice to uniformly found all structures on bedrock.

Prior to our arrival on 12 July 2024 two strip and 15 pier footings had been excavated, as per above details and as shown on the attached Footing Inspection Sketch Plan. We assessed the material at the base of the footings by sounding with a geopick or a metal bar, as weathered sandstone and shale bedrock which we consider to be suitable for the design allowable bearing pressure of 800kPa.

All footings must be free of water and any loose or softened material prior to pouring concrete. Should any delays in pouring be anticipated, a blinding slab of at least 50mm of concrete be poured to prevent water softening of the base material.

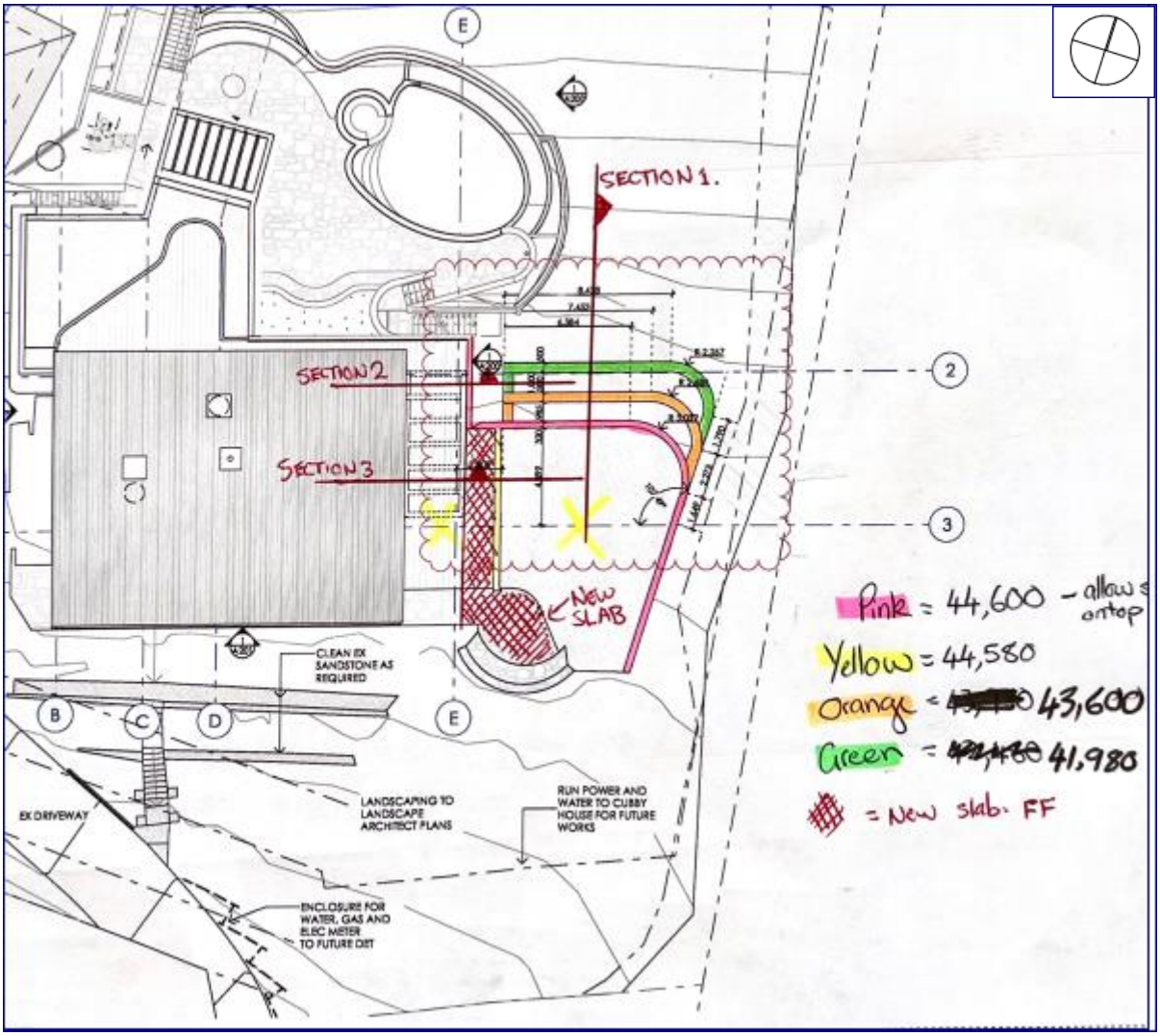
As per our geotechnical report, back of wall drainage is to be connected to the stormwater system. This should be inspected by a geotechnical engineer and accurately marked on a plan for end of the project documentation to be provided to us.

Regards
For and on behalf of
JK GEOTECHNICS

Matthew Pearce
Associate | Geotechnical Engineer

Encl: Site Location Plan
Footing Inspection Sketch Plan

Site Location Plan



Extract from emails 10/11 July 2024-part plan showing proposed landscaped walls in colour

Indicative Footing Location Plan

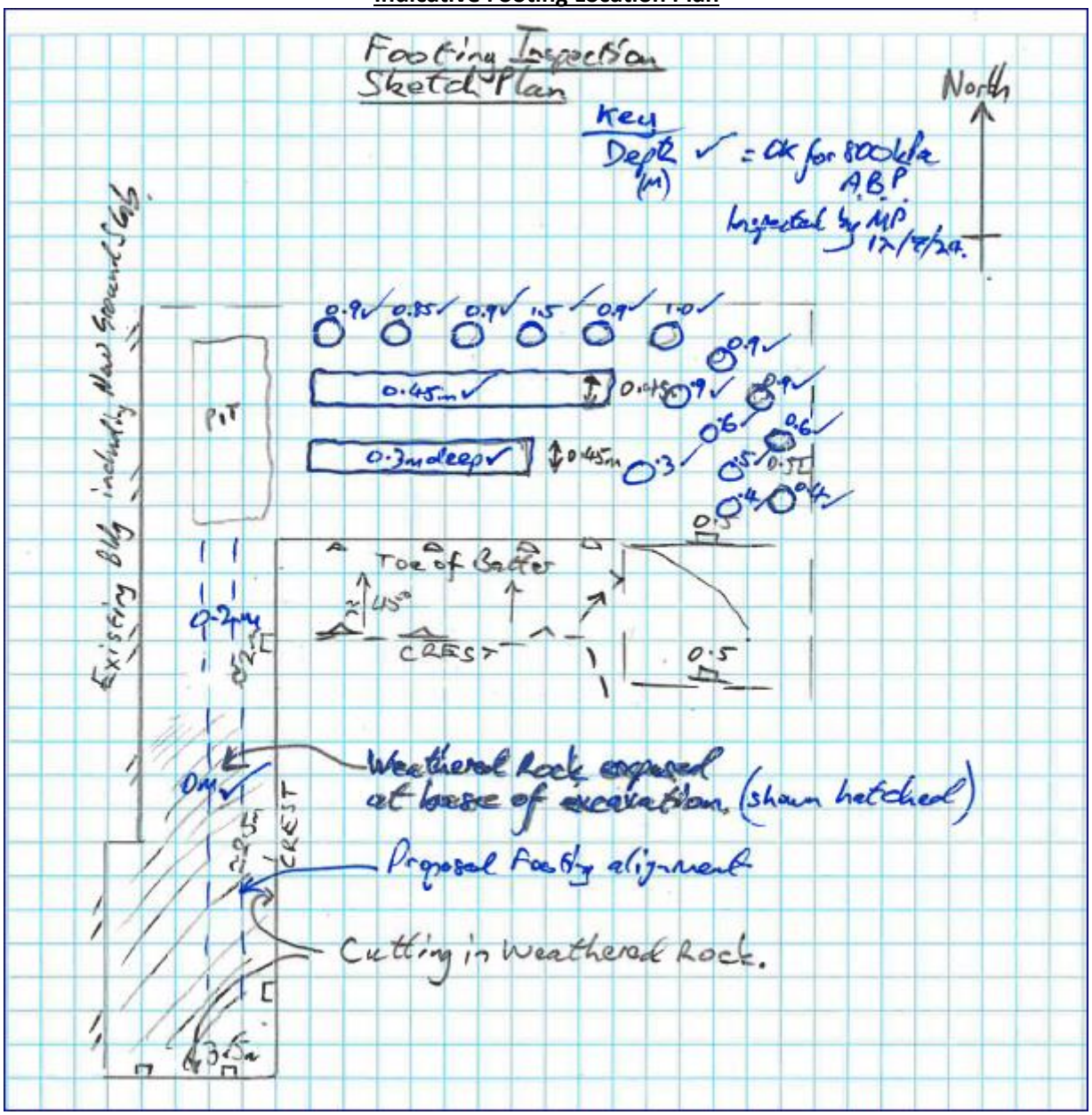


Photo of Inspected Area- looking south-east wards