

Health Infrastructure  
c/o TSA Management  
1 Reserve Road,  
St Leonards NSW, 2065

Douglas Project 222965.00  
14 March 2024  
R.001.Rev0  
PAV

Attention: Marcus Haines, Project Director, Health Infrastructure

HI Project Reference. HI23123

## **Report on Ryde Hospital Redevelopment Temporary Works - Review of Environmental Factors - Geotechnical Appraisal 1 Denistone Road, Denistone NSW**

### **1. Introduction**

Health Infrastructure is proposing a series of temporary works at Ryde Hospital at 1 Denistone Road, Denistone. The purpose of the temporary works is to ensure that the ongoing operation of the hospital is not impacted during construction of the Ryde Hospital Redevelopment (RHR). Specifically, the proposed temporary works will comprise:

- Construction of temporary intensive care unit (ICU) and critical care unit (CCU) Building;
- Provision of a temporary loading dock located off Denistone Avenue;
- Alterations to the Graythwaite Building rooftop and basement to facilitate new office space, kitchens and storage areas;
- Establishment of two construction zones to accommodate office space, workshops and storage and waste compactors;
- Construction of a pedestrian ramp that connects between Trigg House and the Graythwaite Building; and
- Connection and augmentation of in-ground services and utilities, as required.

The purpose of this report is to confirm that the geotechnical risks associated with the proposed temporary works do not adversely impact the existing hospital infrastructure and that the existing geotechnical reports provide ample advice for the proposed works.

## 2. Scope of Works

The general scope of the temporary works based on the architectural drawings by STH Punto Tuncer, services drawings by LCI Consultants Australia Pty Ltd and structural drawings by Greycat Consulting is summarised below, with emphasis on the geotechnical aspects of relevance.

Proposed ICU and CCU Building includes:

- An extension from the existing theatres building for a single level building suspended on columns with an on-grade car park at the existing car park levels;
- Two structural options are proposed for the ICU and CCU Building. Option 1 includes pile footings with ultimate limit state compression loads of up to 1000 kN. Option 2 includes shallow pad and strip footings up to 0.5 m deep with safe working loads of up to 500 kN.

Proposed alterations to the loading dock off Denistone Road includes a hardstand deck less than 10 m by 10 m in plan area that is designed to be supported by pad footings founded in natural clay with an allowable bearing pressure of 100 kPa.

Proposed pedestrian ramp that connects between Trigg House and the Graythwaite Building is to be supported on -grade (i.e. at the existing ground surface, after stripping, etc.).

Proposed alterations to the Graythwaite Building includes the addition of a light-weight single level structure for food services, on top of the existing building at Level 3. Other existing structures such as a Lobby and Plant Room are present on top of this building (at Level 3), suggesting that the building may have been designed to cater for some sort of additional loading. The existing basement will accommodate new storage areas for linen and a grease arrestor, which will be above ground.

Proposed three-storey IPO, Engineers and Executive Offices is located near to the existing Stables Building.

Proposed on-grade pavement off Denistone Road to provide vehicular access to proposed compactors and lifters.

Proposed connection and augmentation of in-ground services and utilities, will require detailed excavation (e.g. trenching) for:

- Electrical conduits and sewer pipeline to extend from existing services to the proposed IPO, Engineers and Executive Offices;
- Connection of above-ground grease arrestors to existing services in the Stores and Linen of the Graythwaite Building basement;
- A new water supply to the to the Stables building.

All other service upgrades are understood to be predominantly above ground within existing and new structures.

### 3. Previous Geotechnical Reports

The following geotechnical reports were completed by Pells Sullivan Meynink Pty Limited (PSM) and were considered by Douglas as part of this report:

- Report PSM38-002R Rev2 Geotechnical Investigation, dated June 2019;
- Report PSM3828-008L Rev2 Geotechnical Investigation, dated February 2023;
- Report PSM3828-011L Rev2 Preliminary Groundwater Advice, dated September 2023.

### 4. Comments

Although a light-weight structure is proposed on the Graythwaite Building, further review of the existing footings of the Graythwaite Building should be undertaken by Douglas and the structural consultant to confirm that the additional loads from the additional Food Services structure does not adversely impact the existing building. This may include a review of as-built drawings of the current building footings, their founding levels, design loads and capacity to withstand additional loads.

The comments and advice within the PSM reports are considered to be generally adequate and applicable for the design and construction of the proposed temporary structures outlined above. Good engineering practice for design and construction is required to not adversely impact the existing structures and utilities, including geotechnical inspections during construction, particularly where excavation work is involved.

Douglas is currently completing a supplementary geotechnical investigation for the Ryde Hospital Redevelopment, with the aim of providing additional information to optimise and develop alternative design schemes.

Please contact the undersigned if you have any questions on this matter.

Yours faithfully

**Douglas Partners Pty Ltd**



**Peter Valenti**  
Senior Associate

Reviewed by



**Bruce McPherson**  
Principal