Douglas Partners Pty Ltd
ABN 75 053 980 117
www.douglaspartners.com.au
15 Callistemon Close
Warabrook NSW 2304
PO Box 324
Hunter Region Mail Centre NSW 2310
Phone (02) 4960 9600
Fax (02) 4960 9601

Doma Holdings (NSW) Pty Ltd
4/3 Sydney Avenue
BARTON ACT 2600

Project 91034.00
27 October 2017
R.006.Rev0
CB:MB:plh

Attention: Chris Farrington

Email: chris@domagroup.com.au

Dear Sirs

Response to Newcastle City Council Comments
Proposed Residential Tower Development
50 Honeysuckle Drive, Newcastle

1. Introduction

This letter report was prepared in response to Newcastle City Council (NCC) comments related to site contamination/remediation for development consent at 50 Honeysuckle Drive, Newcastle.

The following comments were made by NCC:

- *The subject land was remediated, validated and a site audit statement issued in 2005 which determined the site to be suitable for the proposed development subject to the following conditions:*
  - *Groundwater should not be used on-site unless it is demonstrated to be suitable for site specific uses.*
  - *The phytoxicity of the various metals within the soils should be assessed and the appropriate landscaping undertaken, if the fill materials are to be used for landscaping at the site.*
- *Appropriate conditions of consent should be applied, or it should otherwise be ensured, that these comments are addressed and enforced as part of the development approval process as far as practicable.*
- *It is noted that the investigation, remediation, validation works and site audit statement documents are over 10 years old. Contaminated land guidelines such as the National Environmental Protection (Assessment of Site Contamination) Measure 1999 (2013) have changed during this period.*

This response was prepared on the basis of previous and current site investigation results (as discussed in Section 2 below), consideration of current site contamination guidelines and consideration of the proposed development at the site.

2. Background / Discussion

Several previous investigations and reports have been conducted at the site over the years. The most relevant reports are:

- Remediation and Validation Report, prepared by RCA Australia, August 2005 (Ref 1);
- Site Audit Report (SAR) and Site Audit Statement (SAS) prepared by Environ, September 2005 (Ref 2);
- Preliminary Classification of Materials Report, prepared by JBS Environmental, June 2007 (Ref 3);
- Waste Classification and Groundwater Quality Assessment, prepared by Douglas Partners Pty Ltd (DP) for the current proposed development, April 2017 (Ref 4) (current investigation).

The RCA Remediation and Validation Report of 2005 (Ref 1) indicated that the upper fill at the site was contaminated with elevated levels of Total Petroleum Hydrocarbons (TPH), benzo(a)pyrene (B(a)P) and total Polycyclic Aromatic Hydrocarbons (PAH). The soil contamination was generally confined to the upper 0.5 m. Other previous studies also identified elevated metals (notably copper, lead and zinc). Groundwater was encountered at about 2 m depth and found to have zinc concentrations marginally above the ANZECC 2000 (Ref 7) criterion.

Soil remedial works were conducted at the site in 2005 which comprised the excavation of the upper 0.3 m to 0.7 m of impacted material in the north-west corner of the site. The impacted materials were generally associated with the former Wharf Road alignment (i.e. north-west corner of the site). The impacted materials were transported to Summerhill Waste Management facility for disposal.

RCA concluded that following the remediation works, the site was considered suitable for the proposed development (medium density residential), “given that the residual contaminants at the base of the excavation is minimal in extent and pose no human or ecological risk as the proposed development will further limit exposure pathways.”

The Environ Site Audit Report and Site Audit Statement in 2005 (Ref 2) (Auditor Graeme Nyland) found that the site was suitable for the following uses:

- Residential with minimal opportunity for soil access, including units;
- Secondary school;
- Park, recreational open space, playing field; and
- Commercial / industrial.

In addition, Environ recommended that the groundwater should not be used on site unless it was demonstrated to be suitable for site-specific purposes.

The JBS Material Classification report of 2007 (Ref 3) classified soils from the ground surface to a depth of 3.0 m, based on soil samples collected from ten locations and a total of 20 samples tested in the laboratory. The report distinguished between the upper fill (0 m to 0.5 m) comprising gravelly silty sand and slag, from the lower fill (0.5 m to 3.0 m) described as dredged alluvial sand with shell fragments. Both upper and lower fill materials were classified as 'Inert Waste; with reference to then-current DEC guidelines (2004).

A sealed carpark was constructed in 2011 and currently occupies the majority of the site area as shown in Figure 1 below (i.e. low risk of contaminating activity based on current landuse).

Figure 1: Carpark Looking North-West (panoramic)

The DP Waste Classification and Groundwater Quality Assessment conducted in April 2017 included the drilling of 34 test bores to depths of up to 3.0 m, installation of four groundwater wells, and analysis of selected soil and groundwater samples for contamination. This soil sampling frequency was double that recommended by the NSW EPA for characterisation of a 0.7 ha site. The results were compared to the current waste classification guidelines (Ref 5) and the current guidelines for the assessment of site contamination (NEPM 2013 - Ref 6). The results of soil and groundwater testing were commensurate with post remediation site conditions (i.e. similar elevated PAHs and some metals in upper filling, general low propensity for soils to leach, general absence of volatile impacts, similar impacts to groundwater quality). The current site conditions were commensurate to those assessed by the Auditor in the original SAR and SAS.

On this basis, the soils present within the site were reported to be "suitable to remain on-site, subject to the conditions presented in the Site Audit Statement and Report (i.e. minimal soil access and no beneficial use of groundwater)". It is noted that a significant volume and extent of soil will be removed from the site for the proposed basement construction.

Reference should be made to the specific reports for details.

3. Proposed Development

It is understood that the development of the site will include:

- Three six-storey residential towers, with a single basement level carpark across the site, below all three towers;
- Existing ground levels range from about RL 1.8 to 2.9 AHD. The proposed bulk excavation level for construction of the basement is about RL -0.3 AHD. Localised deeper excavations (about 1 m below basement level) will be required for lift pit construction.

Reference should be made to the architectural drawings provided in Ref 4 showing the proposed development.

The principle of "minimal access to soil" has been adopted in the landscape design for the proposed development. The landscape drawings include "Compliance with Contamination Site Audit Statement" and indicate the following:

- All landscaping to be installed within approved imported soils (no planting within existing potentially contaminated soils);
- Provision has been made for a geofabric separation layer over existing site soils within landscape areas.

Reference should be made to the landscape drawings provided in the development application.

4. Comments

The conclusions and recommendations in the 2005 Site Audit Report (SAR) and Site Audit Statement (SAS) (Ref 2) are considered to be valid based on the following:

- General absence of contaminating activities since site remediation in 2005 and preparation of the SAS and SAR (i.e. construction of a carpark);
- Comparison of the results of previous and current site investigations to current contaminated land guidelines (i.e. current site conditions are commensurate with those identified in previous investigations (post remediation) and those considered in the initial SAR and SAS);
- Consideration of the proposed development (i.e. minimal access to soils due to site structures and pavements, and the use of imported approved soils for landscaping with provision for a geofabric separation layer as indicated on the landscape drawings).

The site is therefore considered to be suitable for the proposed development subject to appropriate conditions of consent, commensurate with the conditions presented in the 2005 Site Audit Statement and Report (i.e. minimal soil access and no beneficial use of groundwater).

5. References

1. RCA Australia, “Site Remediation and Validation, Park Residential Honeysuckle Development Estate”, Ref 4489C-001/1, August 2005.
2. Environ Australia Pty Ltd, “Site Audit Report; Honeysuckle Development, Park Residential”, Ref. 31-0069H, Audit GN76, September 2005 and “Site Audit Statement”, Ref. GN 76, September 2005 (Graeme Nyland – EPA Accredited Site Auditor).
3. JBS Environment, “Material Classification – Park Residential, Honeysuckle Drive, Newcastle, NSW”, Ref. JBS 40289-11350, June 2007.
4. Douglas Partners Pty Ltd “Report on Waste Classification and Groundwater Quality Assessment, 50 Honeysuckle Drive, Newcastle”, Report 91034.00.R.001.Rev1, April 2017.
5. NSW EPA (2014) ‘Waste Classification Guidelines, Part 1: Classifying Waste’, November 2014.
6. National Environment Protection Council (2013), ‘National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013’, 11 April 2013.
7. ANZECC (2000) “Australian and New Zealand Guidelines for Fresh and Marine Water Quality”, October 2000.

6. Limitations

Douglas Partners Pty Ltd (DP) has prepared this advice for this project at 50 Honeysuckle Drive, Newcastle with reference to DP’s proposal dated 22 November 2015 and acceptance received from Doma Holdings (NSW) Pty Ltd dated 8 December 2016. The work was carried out under DP’s Conditions of Engagement. This report is provided for the exclusive use of Doma Holdings (NSW) Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the surface and sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP’s field testing has been completed.

DP’s advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

Asbestos containing materials (ACM) have been identified within localised areas of the site. The subsurface conditions contain variable filling that contains building demolition materials that are indicative of the possible presence of hazardous building materials (HBM) including asbestos. It is therefore considered possible that HBM, including asbestos, may be present in unobserved or untested parts of the site, between and beyond sampling locations, and hence no warranty can be given that asbestos is not present.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

The contents of this report do not constitute formal design components such as are required, by the Health and Safety Legislation and Regulations, to be included in a Safety Report specifying the hazards likely to be encountered during construction and the controls required to mitigate risk. This design process requires risk assessment to be undertaken, with such assessment being dependent upon factors relating to likelihood of occurrence and consequences of damage to property and to life. This, in turn, requires project data and analysis presently beyond the knowledge and project role respectively of DP.

Please note that Part 5.6, Section 143 of the Protection of the Environment Operations (POEO) Act 1997 states that it is an offence for waste to be transported to a place that cannot lawfully be used as a facility to accept that waste. It is the duty of the owner and transporter of the waste to ensure that the waste is disposed of appropriately. DP accepts no liability for the unlawful disposal of waste materials from any site.

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

Yours faithfully
Douglas Partners Pty Ltd

Reviewed by

Chris Bozinovski
Principal

Matthew Blackert
Senior Associate

Attachments: About this Report

About this Report

Douglas Partners

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.