

16071 IA3.docx

23 November 2016

NSW Department of Education
c/o Louise Browne
Grimshaw Architects LLP
Level 3, Hickson Road
Sydney NSW 2000

Via email: louise.brown@grimshaw-architects.com
cc: tim.wright@douglaspartners.com.au

Dear Louise,

Re: Interim Advice No.3 – Endorsement of Revised Remediation Action Plan, Arthur Phillip High School and Parramatta Public School, Macquarie Street, Parramatta, NSW

A. Introduction

Grimshaw Architects LLP (Grimshaw), on behalf of NSW Department of Education (NSW DOE), has appointed Kylie Lloyd of Zoic Environmental Pty Ltd (Zoic) as NSW EPA accredited Contaminated Site Auditor (Accreditation No.0302) to conduct an audit at 80-100 and 175-177 Macquarie Street, Parramatta, NSW ("the site").

The aim of the engagement is to enable a site audit statement (SAS) and associated site audit report (SAR) to be prepared that confirms the suitability of the site, for proposed redevelopment as a high and primary school, in accordance with the NSW DEC (2006) Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition).

B. Scope of Audit and Nature of Interim Advice

NSW DEC (2006) describes the site assessment and audit process as:

- (i) *Consultant is commissioned to assess contamination.* The contaminated site consultant designs and undertakes the site assessment and, where required, all remediation and validation activities to achieve the objectives specified by the owner or developer; and
- (ii) *Site auditor reviews the consultant's work.* The site owner or developer commissions the site auditor to review the consultant's work. The auditor prepares a site audit report and a site audit statement at the conclusion of the review, which are given to the owner or developer.

Therefore, the contaminated land consultant and other relevant parties should be satisfied that the work to be conducted conforms to all appropriate regulations, standards and guidelines and is suitable based on the site history and the proposed land use.

The project is a State Significant Development (SDD) and based on advice dated 17 June 2016 from NSW EPA in relation to Secretary's Environmental Assessment Requirements (SEARs) is



statutory in nature, as defined under Part 4 of the Contaminated Land Management (CLM) Act. Consequently, a site audit notification (SAN) has been forwarded to NSW EPA.

The NSW EPA recommended that *a site auditor accredited under the CLM Act (1997) must prepare a Section A SAS for the entire development stating that the site is suitable for the proposed land uses prior to commencement of construction.*

NSW EPA identified the following site specific concerns based on the information (including the draft SEARs) available on the Department of Planning and Environment (DP&E) major projects web site:

- The need to undertake a detailed assessment of potential site contamination following demolition of existing buildings, and infrastructure, including information about groundwater;
- Handling, transport and disposal of any asbestos waste and any lead-based paint waste encountered during demolition;
- Demolition, site preparation, construction and construction-related noise and vibration impacts (including recommended standard construction hours and intra-day respite periods for highly intrusive noise generating work) on noise sensitive receptors such as surrounding residences;
- Demolition, site preparation and construction phase dust control and management;
- Demolition, site preparation and construction phase erosion and sediment control and management;
- Operational noise impacts on noise sensitive receivers (especially surrounding residences) arising from operational activities such as waste collection, loading dock activities and mechanical services (including commissioning of mechanical air handling plant and equipment);
- Operational waste management within the context of waste management hierarchy; and
- Operational water and energy conservation and efficiency.

C. Current Interim Advice

In preparing this interim audit advice (IA), the Auditor has reviewed the following documents related to land contamination assessment:

- Douglas Partners Pty Limited (Douglas) (14 October 2016) Letter Response to Auditor Interim Advice 2 dated 14 November 2016 (85374.03.C.001.Rev0 NLE.mm);
- Douglas (14 November 2016) Report on Detailed Site Investigation (Contamination) (DSI), PPS, 177 Macquarie Street, Parramatta (Ref: 85374.02.R.001.Rev2);
- Douglas (14 November 2016) Report on DSI, APHS-S, 175 Macquarie Street, Parramatta (Ref:85374.02.R.002.Rev2);
- Douglas (14 November 2016) Report on DSI, APHS-N, 80-100 Macquarie Street, Parramatta (Ref: 85374.02.R004.Rev0); and
- Douglas (14 November 2016) Remediation Action Plan, Arthur Phillip High School and Parramatta Public School, Macquarie Street, Parramatta (Ref: 85374.03.R002.Rev0).

The purpose of the current IA is to document Auditor findings following the review of existing information related to site conditions and contamination status. This advice also outlines any data gaps identified in the existing information which should be addressed by the appointed consultant as either part of any further investigation works, or as part of any remedial or validation works that may be required at the site.



D. Background

IA1, which comprised a review of existing reports, was issued on 26 August 2016. In reviewing this background information, the Auditor understands that the site is defined as:

- APHS North: 80-100 Macquarie Street, Parramatta, Approximately 1.24 Ha, legally described as Lot 413 DP820541, Lots 62, 63, 63A, 64 and 65 in DP758829
- APHS South: 175 Macquarie Street, Parramatta, Approximately 0.9 Ha, Lots 1, 2 and 3 DP115296 and Part Lot 414 DP820542
- PPS North: 177 Macquarie Street, Parramatta, Approximately 0.87 Ha, Part Lot 414 DP820542 and Lots 23, 24, 25, 26 and 27A DP449406

The site lies at approximately 10m AHD on the crest of a hill which slopes steadily to the east, north and south and there were observed to be suspected asbestos containing material (ACM fragments) located in APHS North and at the boundary of APHS South and PPS North. The site has had a history of agricultural land use prior to 1925 with a school and other public uses present since 1925, other than construction of zig-zag trenches / air raid shelter during WWII.

It is reported that the site is underlain by Wianamatta Group Ashfield Shale and residual Blacktown Landscape group.

Investigations to date confirmed fill underlain by clay then shale, with depth to groundwater anticipated to be shallow based on the registered bores within 1km radius of the site encountering water between 2.4m and 7m below ground level.

Based on the history of the site, the following contaminants of potential concern were identified:

- Fill - Heavy metals (M8), total recoverable hydrocarbons (TRH), poly aromatic hydrocarbons (PAH), mono aromatic hydrocarbons (BTEXN), organochlorine pesticides (OCP), phenol, polychlorinated biphenyls (PCB) and asbestos;
- OCP and OPP from former agricultural uses;
- Asbestos, lead in paint, synthetic mineral fibre (SMF) and PCB from hazardous materials in buildings or former building footprints;
- ACM fragments at surface;
- VOC associated with downgradient mechanics workshop
- Contaminants associated with Defence sites including PFOS and PFOA.

The consultant has considered the contaminants of potential concern (COPC) in the following media:

- Soil
- Groundwater
- Air
- Surface water run off (unsealed area)

The investigations revealed that the concentrations of COPC generally meet the adopted site criteria with the following exceptions:

- PPS North: ACM and AF/FA in fill materials. No respirable fibres detected. TP3 and HA16 needed immediate access restriction and covering of the latter with woodchips to limit wind / rain erosion.
- PPS North: Lead in BH19 at 0.5-0.6m (740mg/kg) exceeds HIL A (300mg/kg)
- PPS North: BaP in BH2, BH5 and HA14 (max 3.7mg/kg) exceeds HIL A (3mg/kg) and ESL (0.7mg/kg). BH2 results were due to the presence of bitumen.



- APHS South: BaP in BH7, BH9, BH10 and BH12 (max 110mg/kg) exceeds HIL A (3mg/kg) and ESL (0.7mg/kg). Elevated results were due to the presence of bitumen.
- APHS South: TRH F2 and F3 in BH7, BH9, BH10 and BH12 (maximum 570 and 12,000mg/kg) exceeds HIL A / Management Limit (300 and 3500mg/kg) and ESL (120 and 1300mg/kg). The TRH is heavier end and not considered to relate to solvent and ethanol odours.
- APHS South: BaP (max 0.9mg/kg) exceeds the ESL (0.7mg/kg) in natural clay.
- APHS South: whilst not identified it was considered asbestos could be present in the fill materials.
- APHS North: Lead in HA4 at 0-0.1m (320mg/kg) and HA10 at 0-0.2 (410mg/kg) exceeds HIL A (300mg/kg).
- APHS North: BaP TEQ in BH4 at 0-0.1m (8.7mg/kg) exceeds HIL A (3mg/kg).
- APHS North: BaP in BH4, 5 and 8 at 0-0.1m (maximum 5.9mg/kg).
- APHS North: ACM and AF/FA in fill materials. No respirable fibres detected.
- Copper and zinc were detected above ANZECC (2000) guidelines in BH103 (PPS) and MW1 (APHS-S)

E. Auditor Comments

The Auditor has reviewed the revised reports and consultants responses to the Auditor queries raised in Interim Advice No.2 dated 26 October 2016 and considers that the site is capable of being made suitable for the proposed primary and high school land uses providing that the *Douglas (14 November 2016) RAP (Ref: 85374.03.R002.Rev0.RAP.docx)* is implemented and the following comments are addressed:

1. Potential salinity impacts are addressed as part of the wider redevelopment geotechnical works.
2. Groundwater is adequately assessed to confirm no impact from chemical store / tanks on the defence property up gradient of the site. This may include placement of additional groundwater monitoring well(s).
3. Calibration certificates are included in the Validation Report for all equipment used during the remediation works.
4. A contingency plan is prepared and implemented to address potential or actual acid sulfate that may be encountered during the remediation or redevelopment.
5. The potential for asbestos in fill material is appropriately addressed as part of the remediation works, particularly in areas not bottomed out due to refusal on metal (eg location N42).
6. Borehole logs BH2 and BH7 are amended and included in the RAP to show the presence of asphalt gravel.
7. Future implications (i.e. public perception and practical management / future disturbance) are carefully considered by the DOE before implementation of an asbestos capping strategy with associated EMP.
8. Strong consideration is given to a communications plan being prepared prior to remedial works commencing.
9. Appropriate records are provided to demonstrate that hazardous building materials are removed from the building fabric prior to demolition works taking place.

Please notify the Auditor once the site has been vacated and prior to the commencement of the works outlined in the RAP are implemented so that a site inspection can be conducted.

On completion of the works outlined in the approved RAP, Douglas is required to prepare a Validation Report in accordance with NSW OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites stating that the site is suitable for the proposed land uses.





F. Closure

This interim audit advice does not constitute a SAS or a SAR, but rather is provided to assist the Client in the assessment and management of contamination issues at the site. The information provided herein should not be considered pre-emptive of the final site audit conclusions. It represents the Auditor's opinion based on the review of currently available Site information.

Should you have any queries or wish to discuss any points, please do not hesitate to contact me.

Yours sincerely,

Kylie Lloyd
Contaminated Site Auditor
Zoic Environmental Pty Ltd