

AU123177_IA10_27Jun24

27 June 2024

Bridge Housing
Level 9,
59 Goulburn St,
Sydney NSW 2000
c/o Capella Capital

Via Aconex :

Dear Pheobe,

Re: Interim Advice 10 (IA10) – Endorsement of Remediation Action Plan and Acid Sulfate Soils Management Plan, 600-660 Elizabeth Street, Redfern, NSW

1 Introduction

Hickory Constructions Redfern Pty Ltd (Hickory) appointed Kylie Lloyd of Geosyntec Consultants Pty Ltd (Geosyntec), a NSW EPA Auditor accredited (No.0302) under the Contaminated Land Management (CLM) Act 1997, to conduct an audit of land at 600-660 Elizabeth Street, Redfern, 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 the proposed landuse, in accordance with the NSW EPA (2017) Contaminated Land Management Guidelines for the NSW Site Auditor Scheme, 3rd edition. The proposed development comprise demolition of existing site structures and construction of multiple multi-storey residential buildings and a new community facility (PCYC). The residential buildings will have basement extending to approximately 2-3 m below ground level (bgl) at parts of the site footprint and will intersect groundwater table. Deep soil retention/landscaping is proposed in the northern, eastern and southern and central portions of the site.

2 Scope of Audit and Nature of Interim Advice

NSW EPA (2017) describes the site assessment and audit process as:

1. *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
2. *Site auditor reviews the consultant’s work.* The site owner or developer commissions the Auditor to review the consultant’s work. The Auditor then prepares a SAR and SAS at the conclusion of the review, which are given to the owner or developer.

The proposed development is a state significant development (SSD), and is subject to SSD Application No. 51274973. Accordingly, the audit is statutory in nature and requires notification to NSW EPA.

3 Current Interim Advice

In preparing this interim advice (IA), the Auditor has reviewed the following reports for the site:

- EI Australia (EI) (21 June 2024) Remediation Action Plan, Ref: E25947.E06_Rev4 (the RAP).
- EI (21 June 2024) Acid Sulfate Soils Management Plan, Ref: E25947.E14_Rev4 (the ASSMP).

The purpose of the current IA is to endorse the RAP noting the Auditor the has provided comments on the RAP as presented in IA9 issued 17 March 2024 and further comments presented in a comments register issued via Aconex dated 6 June 2024.

4 Review of Remedial Action Plan

The RAP has been audited in accordance with the requirements outlined in EPA (2017) Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd edition), NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Sites and with consideration of the amended NEPC (1999) National Environment Protection (Assessment of Site Contamination) Measure, Schedule A and Schedules B(1)-B(9) by National Environment Protection Council, Adelaide (April 2013). A summary of RAP review is provided below.

The RAP was prepared to set remedial objectives and outline the remedial works to render the site suitable for the proposed residential landuse.

As part of the RAP, EI reviewed previous investigation data, assessed relevant remedial options and selected appropriate remedial strategy including development of a sampling analysis and quality plan (SAQP) for hotspot delineation and remedial validation. Previous investigations identified the following:

- Geological profile comprises brown sand/gravelly sand fill with anthropogenic inclusions extending below surface to approximately 0.9 - 1.4 mbgl, underlain by natural soil (dark organic peaty soil with sulphur odour generally from 1.4 to 1.8 mbgl or deeper, underlain by dark brown clay to 2.0 mbgl, followed by fined grained sand to end of investigation (8.0 mbgl).
- Bonded asbestos, total recoverable hydrocarbons (TRH) and polycyclic aromatic hydrocarbon (PAH) impacted soil is present at multiple locations. Actual/potential acid sulfate soil (AASS/PASS) is present throughout the site. Asbestos impact is limited to fill, whereas TRH and PAH impacts are present in both fill and underlying natural soil, with impact not delineated at some locations. PASS has been reported in natural soil (peat, clay and underlying sandy soil).
- Data gaps exist in soil contamination characterisation in the setback areas (north, east and south) and at the existing PCYC building footprint and sporting facilities.
- Groundwater is present 1.1 to 2.1 mbgl and has pH 5.9-6.3 range. Dissolved aluminium concentration exceeded the ANZG (2018) fresh and marine criteria at two locations.
- Delineation of soil impact, including data gap investigation (DGI), and remediation (along with management of AASS/PASS soil during remediation/site development) is necessary to render the site suitable for the proposed development. Groundwater extracted during basement construction will also require appropriate treatment prior to disposal.

The RAP proposed a five-stage remedial program listed below to address contamination issues:

- Stage 1 – Preliminaries and site establishment: Regulatory notification and permitting/plans.
- Stage 2 – Pre- and post-demolition inspections: Clearance inspection by LLA.
- Stage 3 – DGI at set back areas and PCYC footprint and sporting facilities: Via 13 test pits.
- Stage 4 – Staged remedial works:
 - Delineation and hotspot excavation (for asbestos, TRH and PAH impacted soil) at basement footprint and set back areas.
 - Bulk soil excavation from the basement footprint (following removal of impacted fill)
 - Waste classification and disposal of excavated soil. ASSMP to manage PASS excavation from basement footprint. Measures considered include lime treatment, waste classification and disposal to a licensed waste facility, with an alternative disposal strategy comprise delivering the non-treated PASS to NSW EPA licensed waste facility within 16 hours of excavation and disposing (within 24 hours of excavation) at least 2 m below the lowest historic permanent water table. Material management (excavated VENM, ENM and waste) and tracking during waste disposal and import.
- Stage 5 – Remedial validation and reporting.

EI concluded the site can be made suitable for the proposed residential landuse by implementing RAP.

5 Review of ASSMP

EI's ASSMP has been reviewed against the requirements of the NSW EPA (2014) Waste Classification Guidelines – Part 4: Acid Sulfate Soils and the NSW Acid Sulfate Soil Management Advisory Committee (ASSMAC – 1998) Acid Sulfate Soil Manual. A summary of ASSMP is provided below.

The ASSMP was prepared to provide a framework for management and monitoring of AASS/PASS during the proposed development (specifically during the bulk excavation).

EI reviewed available maps on site topography, geology and soil landscape, including ASS soil risk map, and previous investigation reports to deduce ASS potential, prepared a detailed procedure to treat and dispose ASS, including leachate management including requirement for monitoring soil and surface/groundwater and identification of contingency measures.

EI reported that natural soil (peaty soil, clay and sands) from 1.4 mbgl onwards is PASS and requires appropriate management during the proposed remediation and site development. Approximately 2,764 m³ of soil (assuming an average 0.6 m thick layer of natural soil below fill over 4,607 m² at the basement footprint) would require lime treatment for PASS during basement excavation (average depth of 2 mbgl).

Measures proposed for PASS excavation comprised the following:

- Staged excavation of overlying fill to 1.4 mbgl to prevent cross contamination by PASS.
- Inspection of excavation (once all fill is removed) by environmental consultant and representative from landfill facility prior to PASS excavation.
- Excavation of PASS and stockpiling separately at a designated area for lime treatment or direct disposal to landfill facility.
- Lime application on exposed surface to prevent PASS oxidation, including covering with plastic, as required.
- Waste classification assessment of lime treated stockpiles prior to disposal.

- Management, treatment of extracted ground water (during excavation dewatering) and testing prior to disposal to stormwater drain.

6 Auditor Comments

The Auditor has reviewed EI's RAP and ASSMP against relevant guidelines made or approved by NSW EPA and the comments raised in the Auditor's Interim Advice IA9 dated 17 April 2023. The Auditor considers the RAP to be practical and the site capable of being made suitable for high density residential use subject to the following conditions:

1. Validation of lime treated soils must consist of chromium suite analysis at specified rates in Table 8.1 of the RAP.
2. The validation report must specifically comment on groundwater levels outside the shoring excavation when groundwater levels drop 1.4 metres below the existing ground level (i.e. below the highest known elevation of natural organic Peat layer) to ensure inadvertent oxidation of PASS will be mitigated as per contingency measures presented in section 4.10 of the ASSMP.

7 Closure

This interim 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 Audit conclusions. It represents the Auditor's opinion based on the review of currently available information.

Should you have any queries or wish to discuss any points, please do not hesitate to contact Matthew Rendell or the undersigned.

Yours sincerely,



Kylie Lloyd
NSW EPA Accredited Site Auditor (No.0302)
Geosyntec Consultants Pty Ltd