

20 April 2021

School Infrastructure NSW
Attn: Jacqueline Sellen
Level 8, 259 George Street
Sydney NSW 2000

By email: **Jacqueline.Sellen@det.nsw.edu.au**
cc: **daniel.smith@johnstaff.com.au**

Dear Jacqueline

RE: INTERIM AUDIT ADVICE LETTER NO. 1 - REVIEW OF RAP, NEW PUBLIC SCHOOL IN EPPING, 86 CHELMSFORD AVENUE, EPPING

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Ref 318001042

1. INTRODUCTION

As a NSW Environment Protection Authority (EPA) accredited Contaminated Sites Auditor, I have been engaged by School Infrastructure NSW (SINSW) to conduct a site audit (RS124) under the NSW *Contaminated Land Management Act 1997* (CLM Act) at 86 Chelmsford Avenue, Epping NSW (Lot 1 Deposited Plan 582172) ('the site'). The site locality is shown on Attachment 1.

The overall objective of the audit is to enable a Section A site audit statement (SAS) and supporting site audit report (SAR) to be prepared that confirm the site is suitable for the proposed public school development. This initial review (IAA#1) has been undertaken to provide an independent review of the suitability and appropriateness of a Remediation Action Plan (RAP).

IAA#1 has been prepared to support a state significant development (SSD) application for the project and the audit is currently non-statutory.

2. SCOPE OF WORK

IAA#1 is based on a review of the documents listed below and observations made on a site visit on 20 November 2020, as well as discussions with Johnstaff, the project manager, and Douglas Partners Pty Ltd (DP) who undertook the investigations and prepared the RAP.

The reports reviewed were:

- 'Preliminary Site Investigation TAFE NSW Epping Campus, Chelmsford Avenue, Epping NSW 2121' dated 5 November 2018, Greencap Pty Ltd (Greencap).
- 'Hazardous Building Materials (HBM) Survey, Proposed New Epping South Public School, 86 Chelmsford Avenue, Epping' dated 29 June 2020, DP (*the HBM survey*).

- 'Preliminary (Contamination) Site Investigation, Proposed New Epping South Public School, 86 Chelmsford Avenue, Epping' dated 30 June 2020, DP (*the PSI*).
- 'Epping South Public School Site (86 Chelmsford Avenue, Epping) Heritage Assessment' dated 16 November 2020, GML Heritage Pty Ltd.
- 'Sampling and Analysis Quality Plan, New Public School in Epping, 86 Chelmsford Avenue, Epping' dated 4 December 2020, DP.
- 'Detailed Site Investigation (Contamination), New Public School in Epping, 86 Chelmsford Avenue, Epping' dated 23 March 2021, DP (*the DSI*).
- 'Remediation Action Plan, New Public School in Epping, 86 Chelmsford Avenue, Epping' dated 12 April 2021, DP (*the RAP*).

3. BACKGROUND

The site occupies an area of approximately 20,680 m² and is located within the City of Parramatta Council area. The current zoning is SP2 (Education Establishment).

The site is located in a primarily residential area.

The site history information presented by Greencap and DP indicates that the site had a rural/agricultural land use between 1900 and 1961. Buildings consistent with the current site layout were constructed around 1975 and were used for teaching horticulture courses until 2011, initially as part of the Ryde School of Horticulture and later as part of a TAFE. Chemical storage and use by the TAFE is understood to have included, as a minimum, glyphosate, Spray Seed herbicide (paraquat dichloride and diquat dibromide) and an unknown oxidising agent likely used in the greenhouses.

The key site features are shown on Attachment 2 and include:

- The site topography generally slopes downwards to the southwest, with the northeast portion of the site located on a locally elevated and relatively flat area (top of a ridge). Ground levels range from approximately RL 104 m to RL 116 m relative to Australian Height Datum (AHD).
- Three main brick and masonry buildings (Building A, Building B and Building C) located primarily over the eastern portion of the site.
- Five greenhouse/glasshouses, one located in the western portion and the remainder located centrally. Two greenhouses were dilapidated, and overgrown vegetation was observed.
- Overgrown vegetation was located in the western portion of the site and to the east of the buildings.
- Signage for Hazardous Chemicals, Dangerous Goods Stores, Oxidizing Agent and Flammable Materials was present in sheds along the southern site boundary and adjacent to one of the greenhouses.
- A septic tank was located to the west of Building B.
- Overgrown soil mounds were present at the crest of the slope in the central portion of the site.
- An onsite detention basin was present in the west of the site, with a channel from the basin to the western site boundary.
- Asbestos containing materials (ACM) were positively identified or assumed positive in the majority of buildings/structures including Building A to Building C, the greenhouse/glasshouse and flammable store.

- Potential point sources of contamination identified included septic tank, dangerous and flammable goods stores and demolition/deterioration of buildings, with former agricultural use and filling also identified as potential contaminant sources more generally at the site.

Soil, groundwater and surface water investigations at the site are shown on Attachment 3 and identified the following:

- Fill was identified in all sample locations to depths of between 0.25 m and 1.65 m below ground level (mbgl). Anthropogenic inclusions including ash, burnt wood, brick, terracotta, fabric, plastic, metal, glass, ceramics and concrete were observed in approximately 30% of test locations. Residual clay, sandstone and/or siltstone bedrock was identified beneath the fill in the majority of the sample locations at depths of between 0.8 and 1.7 mbgl. A slight hydrocarbon odour was recorded in fill in TP8 (PSI test location) between 0.2 and 0.8 mbgl.
- No groundwater was observed during drilling of boreholes or excavation of test pits with the exception of one location BH113 where groundwater was encountered at 5.0 mbgl. Groundwater has been recorded in three wells at the site at depths of between 3.6 and 6 mbgl and RL of between 110.6 m and 112.4 mAHD.
- Generally, concentrations of contaminants in the soil samples analysed were below the laboratory detection limits and the adopted assessment criteria. Elevated concentrations of total recoverable hydrocarbons (TRH) C₁₆ to C₃₄ (TRH F3) were identified above the adopted ecological criteria at two surface fill locations (SS126 and SS127).
- Generally, concentrations of contaminants in the groundwater and surface water samples analysed were below the laboratory detection limits and the adopted criteria. Elevated concentrations of copper and zinc were identified in groundwater and surface water above the adopted groundwater investigation levels (GIL), however were considered to be associated with the urbanised nature of the area and consistent with expected background levels. Concentrations of TRH C₆-C₁₀ (TRH F1), ethylbenzene and xylenes were detected in groundwater at BH113 and TRH F1 was recorded in a surface water sample. The concentrations were below the GIL and were considered by DP not to present a risk. DP indicated that due to the source not being confirmed and only one location having been sampled, higher levels of TRH and BTEX may be present in up-gradient areas of the site.

The proposed development is for the establishment of a new K-6 Public School, master planned to cater for up to 1,000 students.

4. EVALUATION OF PROPOSED REMEDIATION

4.1 Remediation Required

DP determined remedial requirements based on review of investigation results against screening criteria and consideration of aesthetic issues. In the Auditor's opinion, the investigations undertaken were adequate to characterise the site for remediation planning purposes.

The investigations undertaken did not identify a clear requirement for remediation, however TRH has been identified at the site surface in fill soils and potential sources of contamination (HBM, anthropogenics in fill material, goods stores, etc.) were present. DP also identified data gaps that require investigation including soil sampling below building footprints which were inaccessible and additional groundwater and surface water investigations to determine appropriate management measures to mitigate any potential risks to site receptors (if any). An unexpected finds procedure is proposed to be implemented during the development and contingency remediation actions are presented in the RAP.

Table 4.1 presents the Auditor's summary of the issues identified in the RAP as requiring additional investigation and potentially remediation, and the preferred actions and remediation options considered

in the RAP. Whilst contamination has not been identified, the RAP identifies the most relevant options for the contamination most likely to be identified on site. Additional remediation planning documentation (e.g. addendum to the RAP) would be required if the identified contamination or proposed remediation strategy for unexpected finds is significantly different than that detailed in the RAP.

Remedial works are proposed to be undertaken following demolition of the on-site buildings and exposure of underlying soil and following the additional investigations to address data gaps.

Table 4.1: Additional Investigations and Remediation Required and Preferred Options

Description	Extent of Investigation/Remediation Required	Preferred Options
Additional groundwater and surface water investigations to assess the data obtained to determine if TPH and/or BTEX in groundwater and surface water potentially pose a risk to future site users	<p>Construction of four additional groundwater monitoring wells in central portions of the site to assess groundwater impacts in new wells and the existing well BH113.</p> <p>Additional surface water sampling of the onsite detention basin.</p> <p>The RAP recommends these investigations be conducted as early as practical (potentially prior to demolition).</p>	<p>Installation of an additional four wells in locations shown on Attachment 4, Appendix A. Contingency remediation options for groundwater contamination are provided in the RAP comprising:</p> <ul style="list-style-type: none"> • Source removal (if identified). • Further investigation/ assessment to determine the actual risk to future site users. <p>Preparation of a Groundwater RAP for Auditor approval if required.</p>
Additional soil investigation beneath building footprints and previously inaccessible areas	<p>Additional soil investigations are required to target the following areas/issues:</p> <ul style="list-style-type: none"> • Inspection of ground surface • Building footprints and inaccessible areas during DSI. <p>The investigations will need to be conducted following demolition/site clearance or during earthworks when access becomes available.</p>	<p>Walkover inspection of the ground surface over the entire site following clearance of vegetation/site structures for signs of potential concern, to be conducted progressively as areas are cleared.</p> <p>Validation sampling of building footprints.</p> <p>Test-pitting investigation 0.2 m into natural soil in the previously inaccessible area in the vicinity of Greenhouse 2 and the adjacent overgrown structures (Attachment 3).</p> <p>Signs of potential concern to be assessed in accordance with unexpected finds contingency.</p>
Decommissioning of infrastructure and additional soil investigation	<p>Removal of stored product, above ground structures, concrete slabs, pipework and inground pit components for:</p> <ul style="list-style-type: none"> • Dangerous Goods Stores (oxidizing product store, flammable goods store, shed 1 and shed 2) • Septic Tank. <p>Geophysical investigation (e.g., ground penetrating radar and / or magnetics investigation) for underground structures in the area of the three Dangerous Goods Store buildings near the southern boundary.</p>	<p>Offsite disposal of liquid and solid wastes in accordance with the NSW <i>Protection of the Environment Operations Act 1997</i> (POEO Act).</p> <p>Inspection of ground surface.</p> <p>Validation sampling of building and infrastructure footprints.</p> <p>RAP includes contingency plan for remediation and validation of Underground Petroleum Storage Systems (UPSS) if identified.</p>
Contaminated Soil/Waste Hotspots including asbestos contamination in fill, hydrocarbon contamination in soils and soils contaminated with other chemicals.	<p>Requirement for remediation not confirmed.</p> <p>The lateral and vertical extent of remediation will be guided by available testing results (including any delineation testing), visual signs of concern or an excavation extent of approximately 5 m by 5 m (whichever is considered the most appropriate based on the available data)</p>	<p>Excavation and offsite disposal.</p> <p>Preparation of an addendum to the RAP for approval by the Auditor and the Consent Authority if remediation/management strategy other than offsite disposal is proposed.</p>

4.2 Evaluation of RAP

The Auditor has assessed the RAP by comparison with the requirements of:

- EPA (2017) *Guidelines for the NSW Site Auditor Scheme (3rd Edition)*
- EPA (2020) *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land*
- National Environment Protection Council (1999, Amended 2013) *National Environmental Protection (Assessment of Site Contamination) Measure* (NEPM, 2013).

The RAP was found to adequately address the required information, as detailed in Table 4.2, below.

Table 4.2: Evaluation of Remedial Action Plan

Remedial Action Plan	Auditor Comments
<p><i>Remedial Goal</i></p> <p>A specific goal is not identified however the objectives of the further investigation, remediation and validation works include:</p> <ul style="list-style-type: none"> • Identify any contamination requiring remediation which was not identified in the DSI • Render the site suitable for the proposed use from a contamination perspective. 	<p>The objectives are considered appropriate.</p>
<p><i>Discussion of the Extent of Remediation Required</i></p> <p>The extent of remediation is relatively unknown however will be determined following completion of the data gap assessments and based on any unexpected finds during development (see Table 4.1 above)</p>	<p>Acceptable</p>
<p><i>Remedial Options</i></p> <p>The remedial options for the contamination most likely to be identified onsite were assessed and included in Section 7.2 of the RAP. Options included off-site disposal, onsite cap and containment and onsite treatment (picking for asbestos and bioremediation/landfarming for hydrocarbons) and offsite treatment. A number of other options have been listed as contingencies.</p>	<p>The Auditor considers that an appropriate range of remedial options were considered.</p>
<p><i>Selected Preferred Option and Rationale</i></p> <p>Preferred options were discussed within the RAP (Section 7.2) as outlined in Table 4.1, above. The excavation and off-site disposal of contaminated soil was considered the preferred remedial option. This has been chosen as the preferred option as it has the lowest long-term risk, is the quickest and current data does not indicate the presence of large volumes of impacted fill. For larger quantities it may, however, be the most expensive option.</p> <p>Source removal (if identified) and further investigation/assessment was considered the preferred remedial option for hydrocarbon impacted groundwater (if identified). The current results are not indicative of the need to remediate/manage petroleum contamination in water at the site.</p>	<p>The Auditor considers the identified preferred options to be appropriate.</p>
<p><i>Description of Remediation to be Undertaken</i></p> <p>Section 9 of the RAP provides a description of the data gap investigation requirements and the remedial works to be undertaken as outlined in Table 4.1.</p>	<p>The Auditor considers the description of remediation to be appropriate, noting that the remediation methods are identified as contingency actions in the event contamination requiring remediation is identified.</p>
<p><i>Proposed Validation Criteria</i></p> <p>Section 10 of the RAP provides remediation acceptance criteria (RAC) and the site assessment criteria (SAC) for data gap assessments. Further information is provided in Appendix C of the RAP.</p>	<p>The Auditor considers the proposed validation criteria to be acceptable.</p>

Remedial Action Plan	Auditor Comments
<p>The RAP indicates that the RAC for the proposed remediation works will be:</p> <ul style="list-style-type: none"> No contamination presenting an unacceptable risk of harm to human health or the environment under the proposed land use remains within the site There are no unacceptable aesthetic issues. <p>Appendix C of the RAP indicates that the SAC will be used as an initial 'Tier 1' assessment of analytical results. Results which meet the SAC will be considered to meet the RAC. Results which exceed the SAC will require further assessment to determine if they meet the RAC. In some cases, it may be more expedient to remediate all exceedances of the SAC rather than conducted further assessment to determine the significance of the results with respect to the RAC.</p> <p>DP considered the generic health investigation levels (HIL) and health screening levels (HSL) to be appropriate for the assessment of human health risk via all relevant pathways of exposure associated with contamination at the site. Based on the proposed primary school use the following SAC were adopted:</p> <p><u>Soil</u></p> <ul style="list-style-type: none"> National Environmental Protection (Assessment of Site Contamination) Measure (NEPM) (2013) HILs for 'Residential' (HIL A) land use. NEPM (2013) HSLs for 'Low-High Density (HSL A&B)' land use. The HSLs assumed a sand and clay soil type. NEPM (2013) Management Limits (MLs) for petroleum hydrocarbons for 'Residential and Open Space' land use and using applicable soil texture (coarse/fine). NEPM (2013) HSLs for Asbestos Contamination in Soil for 'Residential A' (HSL A) land use. Friebel & Nadebaum (2011) HSLs for direct contact for all land use categories, and vapour inhalation/direct contact pathways for intrusive maintenance workers. NEPM (2013) Ecological Screening Levels (ESLs) for 'Urban Residential and Public Open Space', using applicable soil texture (coarse/fine). NEPM (2013) Ecological Investigation Levels (EILs) for 'Urban Residential and Public Open Space' land use. Site-specific EILs have been derived using the Interactive (Excel) Calculation Spreadsheet provided in the ASC NEPM Toolbox assuming the contamination is "aged", no lead background concentrations, low traffic volume, 1-50% clay content (sample dependent) and using site-specific pH and cation exchange capacity (CEC) values. The pH and CEC values adopted for the upper soil layers were an average pH of 6.2 (range 5.2 to 7.1) and CEC of 11.3 $\mu\text{molc/kg}$ (range 9 to 14). No visible loose synthetic mineral fibre (SMF) fibres in surface soils (top 10 cm of soil profile). <p><u>Groundwater and Surface Water</u></p> <ul style="list-style-type: none"> NEPM (2013) HSLs for 'Low-High Density Residential' (HSL A&B) land use. The HSLs assumed a sand soil type and a depth to groundwater of 2 to <4 m and 4 to <8 m. NHMRC (2008) <i>Guidelines for Managing Risks in Recreational Water</i> (GMRRW). The GMRRW indicates that a qualitative assessment of recreational use can be undertaken using 10 times the concentrations of chemicals stipulated in the ADWG. ANZG (2018) <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i>. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia (www.waterquality.gov.au/anz-guidelines). Criteria for freshwater and 95% level of protection were adopted. 	

Remedial Action Plan	Auditor Comments
<p><u>Imported Materials</u></p> <ul style="list-style-type: none"> The soils must be legally able to be imported onto the site in accordance with the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> and any required works specific approvals Wherever possible the soils should be classified as virgin excavated natural material (VENM). Importation of soils classified under a Resource Recovery Order and Exemption (RRO/RRE) (such as Excavated Natural Material (ENM)) may be considered if sufficient suitable VENM cannot be obtained (e.g., for use as topsoil). Documentation for soils to be imported must be accompanied by laboratory analytical reports recording that concentrations of potential contaminants in the soils are within the required concentrations for the classification and the site SAC. For VENM this includes having no signs of concern, no acid sulfate soil, metal concentrations at background levels and organic compounds below appropriate laboratory limits of reporting. 	
<p><u>Proposed Validation Testing</u></p> <p>Section 12 of the RAP outlines the Validation Plan. A validation sampling, analysis and quality plan is included as Appendix B of the RAP.</p> <p>The proposed validation testing is summarised by the Auditor in Table 4.3 below. The proposed analytes are based on the HBM survey results for building footprints and likely or confirmed contaminants for other items.</p> <p>The RAP proposes assessment of imported materials according to low, medium and high risk categories as outlined in Table 4.3.</p>	<p>The proposed validation testing outlined in the RAP and summarised in Table 4.3 is considered acceptable.</p> <p>The Auditor notes that imported material must either be VENM, ENM or be classified under a RRO/RRE. The density of testing of high risk materials is not specified. This would need to be commensurate with the documentation provided and the consistency of the results.</p>
<p><u>Contingency Plan if Selected Remedial Strategy Fails</u></p> <p>Contingency procedures are provided for unexpected finds in Section 14 of the RAP including asbestos, other contaminated soil, UPSS removal and groundwater contamination.</p>	<p>The default strategy for remediation of contaminated soil will be off-site disposal. In the Auditor’s opinion, the remediation contingencies identified for unexpected finds are appropriate and have a low risk of failure as validation failure would lead to further excavation.</p> <p>If a significant volume of contaminated soil is identified, alternate remediation/management options will be reviewed and documented in an addendum to the RAP for approval by the Site Auditor and Consent Authority (for onsite containment).</p>
<p><u>Interim Site Management Plan (before remediation)</u></p> <p>Interim site management measures are not documented in the RAP, however, Section 14 indicates that the environmental consultant is to advise on any interim measures if contamination is identified during the data gap assessments.</p>	<p>Adequate given that the site is fenced.</p>
<p><u>Site Management Plan (operation phase) including stormwater, soil, noise, dust, odour and OH&S</u></p> <p>The RAP does not include a site management plan (SMP). Section 13.1 indicates that it is the responsibility of the Contractor to develop a site management plan(s) detailing site management, environmental management and work health and safety (WHS) (including site emergency response) plans for the site.</p>	<p>The Auditor notes that a SMP, including a work health and safety plan, is required to be included in the RAP, as per NSW EPA (2020) <i>Guidelines for Consultants Reporting on Contaminated Land</i>. Given the requirement for remediation is not yet confirmed and the Contractor will be required to prepare their own plans, exclusion of this detail from the RAP is considered acceptable.</p>

Remedial Action Plan	Auditor Comments
<p><i>Remediation Schedule and Hours of Operation</i></p> <p>Indicative project duration, schedule or hours of operation were not provided in the RAP.</p>	<p>Acceptable given that development consent has not been determined and the hours of operation are likely to be specified in the development consent once approved.</p>
<p><i>Contingency Plans to Respond to Site Incidents</i></p> <p>The RAP does not identify specific potential site incidents or present emergency preparedness and emergency contact details.</p>	<p>Acceptable given response to site incidents will be included in site management planning documentation (to be prepared by the Contractor).</p>
<p><i>Licence and Approvals</i></p> <p>The RAP indicates that the remediation works are classified as Category 2 Remediation Works as per the meaning provided in SEPP 55 and will require 30 days notification to Council prior to remediation works commencing under the NSW <i>Environmental Planning and Assessment Act 1997</i>. The remediation works are ancillary to the development of the new school at the site, for which approval is being sought under the SSD process.</p> <p>Should asbestos be encountered in soils, a notification of asbestos removal work will be submitted to SafeWork NSW by the remediation contractor. Depending on the nature of the asbestos encountered, the remediation contractor will hold a Class A or Class B licence for removal of asbestos.</p> <p>An independent Asbestos Assessor is to be engaged to provide advice, air monitoring, asbestos clearances and other items as required to appropriately conduct all asbestos works at the site.</p> <p>An appropriately licensed landfill should be selected and the material tracked from the site to the landfill.</p>	<p>Acceptable</p>
<p><i>Contacts/Community Relations</i></p> <p>Contacts and community relations are not provided in the RAP.</p>	<p>The Auditor notes that names and phone numbers of appropriate personnel to contact during remediation are required to be included in the RAP, as per NSW EPA (2020) <i>Guidelines for Consultants Reporting on Contaminated Land</i>.</p> <p>The Auditor considers it likely that phone numbers of appropriate site personnel will be displayed on signs located adjacent to the site access throughout the remediation program and be included in the site management plan/s required to be developed as per Section 13.1 of the RAP.</p>
<p><i>Staged Progress Reporting</i></p> <p>The RAP indicates that development works and remedial works will occur in stages however does not indicate whether there will be a staged reporting process for the remedial works with preparation of a single validation assessment report proposed.</p>	<p>The Auditor expects informal progress reporting will be undertaken to notify the Auditor of the results of the data gap assessment and validation results which indicate the requirement for remediation.</p>
<p><i>Long Term Environmental Management Plan</i></p> <p>The preferred remediation strategy is offsite disposal therefore long term management is not expected. The RAP indicates that in the event that large quantities of contaminated material are identified and an alternate remediation strategy (such as onsite containment/retention) is proposed, a RAP addendum will be prepared for approval by the Auditor and Consent Authority.</p>	<p>Onsite containment will require long term management under an Environmental Management Plan (EMP). Approval from the Consent Authority will be required if this approach is proposed and an enforcement mechanism for the EMP will be required.</p>

Remedial Action Plan	Auditor Comments
<p><i>Waste Management</i></p> <p>Off-site disposal of wastes will be undertaken in accordance with the POEO Act and related regulation. No soils will leave the site without a formal assessment and classification, with the relevant guidance referenced. The environmental consultant will prepare waste classification reports for material to be disposed offsite.</p> <p>Transport of waste and disposal of materials must be conducted in accordance with the requirements of the POEO Act. Licences and approvals required for disposal of the material will be obtained prior to removal of the materials from the site.</p> <p>Details of all soils removed from the site (including VENM) shall be documented by the Contractor with copies of weighbridge slips, trip tickets and consignment disposal confirmation (where appropriate) provided to the Environmental Consultant and the Principal’s Representative (PR). A site log shall be maintained by the Contractor to track all materials leaving the site and with truck identification (e.g., registration number), date, time, load characteristics (i.e., classification, on-site source, destination). A record of the truck dispatch will be provided to the PR.</p>	<p>The proposed waste management is acceptable.</p>

Table 4.3: Proposed Validation Testing

Item	Aspect	Sampling Frequency	Analytes
Data gap assessment	Groundwater and surface water	4 new wells to 15 m, sampling of new wells and BH113, sampling of onsite detention basin	TRH, TPH (with silica gel clean up) and BTEX
Data gap assessment	Previously inaccessible area	2 test pits 0.2 m into natural	Metals, PAH, TPH, BTEX, OCP/OPP, PCB and asbestos
Validation of decommissioning	Flammable Store, Shed 1 and Shed 2	<p>At least 1 sample targeting the former waste pit (west of Shed 2)</p> <p>At least 1 sample targeting the former bunded area (east of Shed 1)</p> <p>1 per 5 m length from any former below ground pipework, including the floor waste (minimum of one sample per pipe)</p> <p>Targeted sampling of any other potentially contaminated soils as identified by the inspection</p> <p>A minimum of 1 sample within the former building footprint per former building (including any targeted contamination samples collected from the building)</p> <p>Minimum of 2 samples per former building perimeter (including any targeted contamination samples collected from the building).</p>	<p>TRH, BTEXN, phenols, OCP, OPP, VOC.</p> <p>Additional analysis of at least 2 samples from the building perimeter of the Flammable Goods Store for asbestos and PCB</p>
	Septic tank	Excavation sampling as per below	<p>TPH, BTEXN, OCP, OPP, PCB, phenols and VOC</p> <p>Waste classification testing of any removed solids for TRH, BTEX, OCP, OPP, PCB, phenols, VOC, metals and PAH</p>

Item	Aspect	Sampling Frequency	Analytes
Building Footprints	Building A, B and C	One sample per 25-50 m ² or part thereof, with a minimum of one sample per building.	Lead, PCB, OCP/OPP and asbestos
	Glasshouse 1 and 2, Greenhouse 1 to 3	One sample per 10 m length or part thereof of the former external walls, with a minimum of two samples per building.	PCB, OCP/OPP and asbestos
	Oxidising agent store (unidentified oxidising agent)	Additional targeted samples will be collected if visual signs of concern are identified.	pH
	Shed 4 (no HBM identified in Shed 3)		PCBs
Surfaces or excavations (if required)	Excavations (base <500 m ²)	<p>Base of excavation/ground surface area: one sample per 25-50 m² or part thereof. Where high local variation is expected, a minimum of three samples will be collected.</p> <p>Sides/walls of excavation: one sample per 10 m length or part thereof (excavations only).</p> <p>Additional samples will be collected at depths of concern.</p>	Depending on contamination identified.
	Excavations (base >500 m ²)	<p>Base of excavation/ground surface area: sampling on a grid at a density in accordance with the EPA (1995) <i>Contaminated Sites: Sampling Design Guidelines</i> or a minimum of ten samples. In sub-areas with any specific situations, a higher sampling density may be required.</p> <p>Sides/walls of excavation: one sample per 20 m length or part thereof (excavations only).</p> <p>Additional samples will be collected at depths of concern.</p>	
Stockpiles	Reuse	<p>Stockpiles ≤250 m³: one sample per 25 m³ or a minimum of three samples.</p> <p>Stockpiles >250 m³: one sample per 50-250 m³, or a minimum of 10 samples</p>	Depending on contamination identified in stockpile/source
	Footprints	<p>Footprint <500 m²: one sample per 25-50 m² or part thereof. Where high local variation is expected, a minimum of three samples will be collected.</p> <p>Footprint >500 m²: sampling on a grid at a density in accordance with the EPA (1995) <i>Contaminated Sites: Sampling Design Guidelines</i> or a minimum of ten samples. In sub-areas with any specific situations, a higher sampling density may be required.</p>	Depending on contamination identified in stockpile/source
Imported materials	Quarried VENM	No testing required	-
	Low Risk (VENM with supporting information and tunnel spoil with a specific RRO/RRE issued by the EPA)	<p>Per source site:</p> <ul style="list-style-type: none"> ≤1,000 m³: one sample per 200 m³ or a minimum of three samples >1,000 m³: five samples from the first 1,000 m³ plus one sample per additional 1,000 m³ or part thereof. 	<p>Not specified.</p> <p>Assumed to include identified common contaminants: asbestos, TRH, PCB, OCP, OPP and phenols.</p>

Item	Aspect	Sampling Frequency	Analytes
	Moderate Risk (topsoil, tested in accordance with the EPA requirements for the material; and ENM with testing results for a range of common contaminants)	Per source site: <ul style="list-style-type: none"> ≤1,000 m³: one sample per 100 m³ or a minimum of three samples >1,000 m³: ten samples from the first the first 1,000 m³ plus one sample per additional 200 m³ or part thereof. 	Not specified. Assumed to include identified common contaminants: asbestos, TRH, PCB, OCP, OPP and phenols.
	High Risk (insufficient documentation, site history information indicating a high risk of contamination for the subject material, materials with insufficient testing results)	Not specified	Not specified. Assumed to include identified common contaminants: asbestos, TRH, PCB, OCP, OPP and phenols.

- TRH Total recoverable hydrocarbons
- TPH total petroleum hydrocarbons (with silica gel clean up)
- PCB polychlorinated biphenyls
- OCP organochlorine pesticides
- OPP organophosphorous pesticides
- BTEXN benzene, toluene, ethylbenzene, xylenes, naphthalene
- VOC volatile organic compounds

5. AUDITOR’S OPINION

The investigations undertaken have not identified the need for remediation of soil or groundwater contamination, however, some data gaps exist that are proposed to be addressed through the RAP. The remediation approach recommended in the RAP is considered adequate to manage contamination that is likely to be identified, subject to successful implementation of the RAP and preparation of a validation report. Review of the remediation requirements will be required following completion of the data gap investigations, and an amended RAP or Groundwater RAP may be required if additional contamination issues requiring remediation or management are identified. This will be reviewed as part of the Audit.

After successful implementation of the RAP, including any addendums, it is anticipated that a Site Audit Statement and accompany Site Audit Report will be prepared assessing the suitability of the site for the proposed use, as well as any long-term management requirements.

Although long term management is not currently envisaged, to allow for future enforceability of an EMP (if required), it may be appropriate for the Consent Authority to include conditions of consent that require conditions of any Site Audit Statement to become conditions of the consent.

6. LIMITATIONS

This interim audit advice was conducted on behalf of SINSW for the purpose of assessing the suitability and appropriateness of a remediation action plan. This summary report may not be suitable for other uses.

Consistent with the NSW EPA requirement for staged 'signoff' of sites that are the subject of progressive assessment, remediation and validation, I advise that:

- This advice letter does not constitute a Site Audit Report or Site Audit Statement.
- At the completion of the remediation and validation I will provide a Site Audit Statement and supporting documentation.
- This interim advice will be documented in the Site Audit Report.

The Auditor has relied on the documents referenced in Section 1 in preparing the Auditors' opinion. The consultants included limitations in their reports. This interim audit advice must also be subject to those limitations. The Auditor has prepared this document in good faith, but is unable to provide certification outside of areas over which the Auditor had some control or is reasonably able to check. If the Auditor is unable to rely on any of those documents, the conclusions of this interim audit advice could change.

It is not possible to present all data which could be of interest to all readers of this interim audit advice. Readers are referred to the referenced reports for further data. Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

* * *

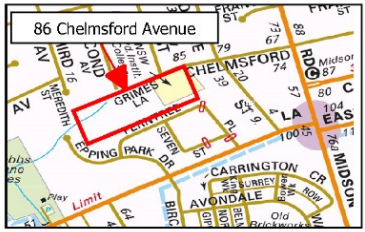
Yours faithfully
Ramboll Australia Pty Ltd



Rowena Salmon
EPA Accredited Site Auditor 1002

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Attachments: 1 Site Locality Plan
2 Site Features Plan
3 Sample Location Plan
4 Proposed Data Gap Groundwater Well Location Plan

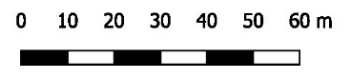


LOCALITY MAP

- Notes:
1. Basemap from MetroMap (dated 29/08/2020)
 2. Locality map from street-directory.com (dated 27/04/20)

Legend

 Site Boundary

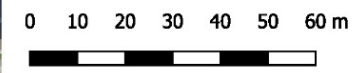




Legend

- Site Boundary
- Inaccessible Area
- Borehole Location
- Test Pit Location
- Hand Auger Location
- Surface Sample Location
- Borehole Location (DP, 2020c)
- Test Pit Location (DP, 2020c)
- Hand Auger Location (DP, 2020c)

Notes:
 1. Basemap from MetroMap (dated 29/08/2020)
 2. All locations approximate only



Attachment 4: Proposed Data Gap Groundwater Well Location Plan



Legend

-  Site Boundary
-  Monitoring Well (BH)/ Surface Water
-  Proposed Groundwater Well Locator

Notes:
 1. Basemap from MetroMap (dated 29/08/2020)
 2. All locations approximate only



CLIENT: School Infrastructure NSW	DRAWN BY: NLE	
OFFICE: Sydney	DATE: 26.03.2021	
SCALE: As Shown		

TITLE: **Proposed Groundwater Well Location**
Epping South Public School
 86 Chelmsford Ave, Epping



PROJECT No: 99671.03
DRAWING No: R.004.D04
REVISION: 0