

8 January 2025

Stanton Dahl Architects Pty Ltd
Attn: Domenic Marra
18-20 Oxford Street
Epping NSW

By email: domenic.marra@stantondahl.com.au

Dear Domenic

RE: INTERIM AUDIT ADVICE LETTER NO. 1 - REMEDIATION ACTION PLAN, PROPOSED EILEEN O'CONNOR CATHOLIC SCHOOL, 84 GAVENLOCK ROAD, MARDI NSW

Ramboll Australia Pty Ltd
Level 3, 100 Pacific Highway
PO Box 560
North Sydney NSW 2060

T +61 2 9954 8100
www.ramboll.com

Ref: 318002087

Audit Number: LW-063

1. INTRODUCTION

As a NSW Environment Protection Authority (EPA) accredited Contaminated Sites Auditor, I am conducting an Audit (LW-063) under the NSW *Contaminated Land Management Act 1997* (CLM Act) in relation to the proposed Eileen O'Connor Catholic School within the northwestern portion of the existing St Peter's Catholic College located at 84 Gavenlock Road, Mardi, NSW 2259. This initial review has been undertaken to provide an independent review of the suitability and appropriateness of a Remediation Action Plan (RAP) and the contamination investigations undertaken at the site to date.

It is understood that planning consent is being sought for the proposed development under a state significant development application (SSD-67173718). The Planning Secretary's Environmental Assessment Requirements (SEARs) issued by Department of Planning, Housing and Infrastructure, dated 19 February 2024, require that assessment for potential contamination and any required remediation be completed in accordance with the SEPP (Resilience and Hazards) 2021. Additional requirements of the cover letter with the SEARs include *"In relation to Contamination and Remediation, if required, provide a Remediation Action Plan (RAP) including Interim Audit Advice from an EPA accredited Site Auditor certifying the RAP as appropriate."*

This interim audit advice (IAA1) is based on a review of the documents listed below and observations made on a site visit by the Auditor's Assistant on 1 July 2024, as well as discussions with Stanton Dahl Architects Pty Ltd and Raw Earth Environmental Pty Ltd (REE) who undertook the investigations and prepared the RAP.

The reports reviewed were:

- 'Acid Sulfate Management Plan, Eileen O'Connor School, 84 Gavenlock Road, Tuggerah NSW, 2259' dated 20 October 2023, REE (**the ASMP**)
- 'Preliminary Site Investigation, Eileen O'Connor School, 84 Gavenlock Road, Tuggerah NSW, 2259' dated 8 March 2024, REE (**the PSI**).
- 'Salinity & Aggressivity Assessment, Eileen O'Connor Catholic School, 84 Gavenlock Road, Mardi NSW, 2259' dated 15 May 2024, REE (**the SA**).
- 'Sampling & Analysis Quality Plan (SAQP), Eileen O'Connor School - 84 Gavenlock Road, Mardi NSW, 2259' dated 21 June 2024 (and previous version dated 11 June 2024), REE (**the SAQP**).
- 'Insitu Excavated Natural Material (ENM) Statement of Compliance, Eileen O'Connor Catholic School, 84 Gavenlock Road, Mardi NSW, 2259' dated 17 July 2024, REE (**the ENM Report**).
- 'Detailed Site Investigation, Eileen O'Connor Catholic School: 84 Gavenlock Road, Mardi NSW, 2259' dated 21 August 2024 (and previous version dated 16 July 2024), REE (**the DSI**).
- 'Remediation Action Plan, Eileen O'Connor Catholic School: 84 Gavenlock Road, Mardi NSW, 2259' dated 10 December 2024 (and previous version dated 17 October 2024), REE (**the RAP**).

I have reviewed the key documents against the requirements of guidelines made or approved under Section 105 of the CLM Act, including the following:

- National Environment Protection Council (NEPC) '*National Environment Protection (Assessment of Site Contamination) Measure 1999*', as Amended 2013
- NSW EPA (2015) '*Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997*'
- NSW EPA (2017) '*Guidelines for the NSW Site Auditor Scheme (3rd Edition)*'
- Australian and New Zealand Guidelines (ANZG) (2018) '*Guidelines for Fresh and Marine Water Quality*'
- Australia and New Zealand Heads of EPAs (HEPA 2020) '*PFAS National Environmental Management Plan, Version 2.0*'
- NSW EPA (2020) '*Contaminated Land Guidelines, Consultants Reporting on Contaminated Land*'
- Chapter 4 Remediation of Land in the Resilience and Hazards State Environment Planning Policy (SEPP) (2021) (SEPP R&H, formerly known as SEPP 55) and NSW Department of Urban Affairs and Planning and NSW EPA (1998) '*Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land*'
- Western Australia Department of Health (2021) '*Guidelines for the assessment, remediation and management of asbestos contaminated sites*'
- NSW EPA (2022) '*Contaminated Land Guidelines, Sampling design part 1 – application*' and '*Contaminated Land Guidelines, Sampling design part 2 – interpretation*'

2. SITE DETAILS

2.1. Location

The site details are as follows and the site location and site boundary are shown in **Attachment 1**:

Street address:	Part 84 Gavenlock Road, Mardi, NSW 2259
Identifier:	Part Lot 9 Section 4 Deposited Plan (DP) 3368
Local Government:	Central Coast Council
Owner:	Catholic Schools Diocese of Broken Bay
Site Area:	Approximately 12,840 m ²
Zoning:	R2 Low Density Residential under Central Coast Local Environmental Plan (LEP) 2022

The northern and western site boundaries are well defined by the existing St Peter's Catholic College boundary fencing and adjoining land uses. The southern and eastern site boundaries of the site are not well defined within the St Peter's Catholic College campus.

2.2. Adjacent Uses

The site is located within the northwestern corner of St Peter's Catholic College which is within an area of residential and commercial/industrial land uses with areas of bushland. The surrounding site use includes:

North: Residential land uses

East: Part of St Peter's Catholic College, then Gavenlock Road and commercial/industrial land uses

South: Part of St Peter's Catholic College, then residential land and vacant bushland

West: Keefers Glen, then residential land uses

2.3. Site Condition

The site boundary and site layout is shown in **Attachment 1**. REE reported the following site conditions in the DSI which was based on a site inspection in July 2024:

- The site is located in the northwestern portion of an existing educational facility. The site slopes downhill from southwest to northeast of the property.
- The site is predominantly covered by grass and vegetation. The centre is occupied by a surface water body (dam). Three sheds occupied the southeastern portion of the site which appeared to be on a fill platform. Bricks and concrete cobbles/boulders were visible at the surface between the sheds within the fill platform area. Small quantities of fuel storage and chemicals were also observed in one of the sheds.
- An asphalt playing court was located in the northeast portion of the site.
- There were several garden beds and a concrete slab to the west of the fill platform.

Similar site conditions were observed by the Auditors assistant during a site visit on 1 July 2024, with the following additional observations noted:

- Adjoining portions of the St Peter's Catholic College stepped down a north facing hillside with level areas created for buildings, sports courts and general areas.

- A small, raised berm, approximately 0.3-0.5 m high, was observed along the majority of the southern site boundary
- The dam wall, comprising soil, was located to the north of the dam which was up to 1 m higher than the ground surface to the north. Sandstone cobbles and boulders were observed in areas of exposed soil within the dam wall.

2.4. Proposed Development

It is understood that the site is to be redeveloped by the owner as a future K-12 special needs school. It is understood that development works will include a building with three wings in the west, south and east and recreational and open space areas across the remainder and will require filling of the existing dam and the demolition of existing sheds and hardstand pavements.

For the purposes of this audit, the 'residential with soil access' land use scenario has been assumed as this is appropriate for primary school use which will form part of the proposed development.

3. SITE HISTORY

REE undertook a review of site history during the PSI which was based on aerial photographs, site photographs, Certificates of Title, NSW EPA records and Council Planning Certificates. Based on review of the PSI, the Auditor has summarised the site history as follows:

- The historical aerial imagery indicates that the site formed part of a wider rural property (potential agricultural land uses) and was dense bushland prior to 1997 when the majority of the site vegetation appears to have been removed. Two sheds are visible in the southeast portion of the site.
- Although the imagery is not clear it appears development commenced at the wider school property prior to 1989 with a similar layout to the existing St Peter's Catholic College observed in the 1997 image.
- The existing dam on the site was first visible in the 1975 image.
- Significant residential subdivision works appear adjacent to the site and wider property from 1997.

REE reviewed potential for per- and poly- fluoroalkyl substances (PFAS) chemical maps and noted that there were no sites identified as impacted by PFAS contamination within the immediate vicinity of the site.

REE reported in the PSI that the site and adjacent sites had not been notified as a contaminated site under the CLM Act. There were also no records for the site or adjacent sites for any licensed activities under the *Protection of the Environment Operations Act 1997* (POEO Act).

3.1. Auditor's Opinion

In the Auditor's opinion, the site history provides an adequate indication of past activities. Although the site history review did not include a search of records held by SafeWork NSW to store Dangerous Goods at the site, given the historical bushland and existing school uses, it is considered unlikely that significant volumes of dangerous goods have been stored at the site. The most significant potential for contamination at the site is associated with leveling or filling of the site with fill of unknown source and composition to accommodate the existing site levels, historical use of pesticides in the vicinity of and beneath structures, and the historical use, weathering and demolition of structures containing hazardous building materials.

4. CONTAMINANTS OF CONCERN

REE provided a list of the contaminants of concern and potential sources of contamination in the SAQP and PSI. These have been tabulated in **Table 4.1**.

Table 4.1: Contaminants of Concern

Potential Sources	Potential Contaminants
Uncontrolled fill across the site	Metals, total recoverable hydrocarbons (TRH), BTEX (benzene, toluene, ethylbenzene, xylenes), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCP) and asbestos.
Impacted surface water	Metals, BTEX, TRH, PAHs, E.coli, Faecal coliforms, total phosphate, total nitrogen and pH

Based on the results of the DSI, REE did not identify contamination requiring remediation. However, due to access constraints, soil conditions below existing buildings and structures and hardstand areas were not able to be assessed during the DSI. Further assessment of these data gaps areas is proposed in the RAP following demolition of site structures, as discussed in **Section 11**.

4.1. Auditor’s Opinion

The Auditor considers that the analyte list used by REE adequately reflects the site history and condition, however use of pesticides in the vicinity of and beneath structures, and the historical use, weathering and demolition of structures containing hazardous building materials are also potential contamination sources at the site.

Although OCPs were identified by REE as a contaminant of concern, these were not included in the analytical schedule for the DSI. Based on the results of the DSI which did not detect soil contamination or significant volumes of fill material, this omission is not considered to be significant. However, OCPs should be considered during the additional assessment required in the RAP which is required to characterise soils conditions below existing structures and within a fill platform.

A desktop screen for PFAS sources was undertaken by REE which did not identify PFAS related land contamination risks at the site. In the Auditor’s opinion, there are no indications in the site history that PFAS would be potential contaminants of concern.

5. STRATIGRAPHY AND HYDROGEOLOGY

5.1. Stratigraphy

REE reviewed geological maps and reported that the site is underlain by Quaternary aged deposits of gravel and sand along with Triassic Patonga Siltstone consisting of red-brown claystone and pale grey sandstone.

REE undertook 24 sample locations (majority test pits) during the DSI. The sub-surface profile encountered at the site during the DSI has been summarised by the Auditor in **Table 5.1**.

Table 5.1: Stratigraphy

Depth (mbgl)	Subsurface Profile
0.0 – 1.8	Fill material comprising sandy clay and sandy material with low proportions of anthropogenic inclusions was identified at eight of the 24 locations completed within the batter of the fill platform in the southeast and within a small mound running along the southern site boundary. The anthropogenic inclusions included brick, concrete, plastic, asphalt, metal and timber. Sample locations TP16 and TP22 to TP24 were terminated in fill material at depths between 0.3 and 0.4 mbgl.

Depth (mbgl)	Subsurface Profile
0.0 – 1.8 to maximum depth of the investigation (2 mbgl)	Natural sandy soils (sand, clayey sand and silty sand) were identified from the surface in the locations where fill was not identified and beneath the fill material in locations except those terminated in fill material

mbgl – metres below ground level

REE reported that the Central Coast LEP identifies the northern portion of the site as a Class 4 risk for acid sulfate spoils while the remaining portions were classified as a Class 5 ASS risk. ASS within a Class 4 area is typically found 2 m below the natural ground surface. REE also undertook an ASS investigation at the site and a summary of this investigation was provided in other REE reports. The REE summaries noted ASS is likely present in soils >2 mbgl at the site.

5.2. Hydrogeology

REE undertook a search for registered bores in July 2024, which identified one registered bore within a 500 m radius of the site. The Auditor undertook a search for registered bores in November 2024 and identified the same registered bore however was approximately 700 m south of the site. The Auditors search did not identify any registered bores within a 500 m radius of the site.

Groundwater investigations have not been undertaken at the site and the depth to groundwater over the site is not known. Groundwater was not encountered during the intrusive investigations, which extended to a maximum depth of 2.0 mbgl.

5.3. Auditor’s Opinion

The Auditor considers that the stratigraphy is sufficiently well known for the purpose of remedial planning. The heterogeneity and extent of fill material has the greatest potential to impact the remediation of the site, however, fill material is limited in extent to the fill platform and the soil mound along the southern site boundary and potentially below the playing courts in the eastern portion of the site. Further assessment to characterise fill in these areas is proposed in the RAP (**Section 11**) following demolition of site structures and removal of hardstand.

The Auditor was not provided with the original ASS assessment report and has not reviewed the adequacy of the investigation. ASS may require management if the final design requires excavation below the current site levels or dewatering of excavations.

Intrusive groundwater investigations for contamination assessment were not undertaken at the site. The site history does not indicate the presence of point source contamination that would be likely to cause groundwater contamination that would present a risk to future site occupants. Based on the nature of contamination identified in soil (discussed in **Section 8**), the absence of intrusive groundwater contamination investigations is acceptable and further assessment of groundwater is not considered warranted based on current data.

6. EVALUATION OF QUALITY ASSURANCE AND QUALITY CONTROL

The Auditor has assessed the overall quality of the data by review of the information presented in the DSI, supplemented by field observations. The data sources are summarised in **Table 6.1**.

Table 6.1: Summary of Investigations

Investigations	Field Investigations	Analytical Data Obtained
DSI (REE, 2024) <i>Fieldwork date: July 2024</i>	24 test pit locations (S1 to S24) generally spaced for site coverage and targeting identified areas of concern where they were accessible. Two dam water samples (SW1 and SW2).	Soil: Metals, TRH, BTEX, PAHs, foreign materials, pH and electrical conductivity (eight fill and 10 natural samples) and asbestos (% w/w for asbestos containing materials (ACM) > 7 mm and for asbestos fines/friable asbestos (AF/FA)) (three fill samples) Dam water (2 samples): Metals, TRH, BTEX, PAHs, pH, E.coli and Faecal coliforms

The Auditor’s assessment follows in **Table 6.2** and **Table 6.3**.

Table 6.2: QA/QC – Sampling and Analysis Methodology Assessment

Sampling and Analysis Plan and Sampling Methodology	Auditor’s Opinion
<p><i>Data Quality Objectives (DQO)</i></p> <p>REE defined specific DQOs in accordance with the seven step process outlined in Schedule B2 of NEPM (2013). The following decisions for the DSI were identified in the DQOs:</p> <p><i>“Undertake a soil and surface water investigation at the site to identify any potential contamination which may pose a risk to human health and/or the environment. If contamination is identified within the site, can the site be made suitable for its intended land use with the requirement for remediation and/or management if necessary.”.</i></p>	<p>The DQOs were considered appropriate for the investigations conducted.</p>
<p><i>Sampling pattern and locations</i></p> <p><i>Soil:</i> Investigation locations were spaced to gain coverage of the majority of the site. The various fill and natural materials at the site were also targeted for sampling. Limited samples (using hand tools) also targeted the fill platform.</p> <p><i>Dam water:</i> Within the eastern and western portions of the dam.</p>	<p>Sampling completed during the DSI was limited to accessible areas outside of building footprints and sports courts. There are data gaps relating to soil conditions within these areas that are not accessible until demolition is undertaken.</p> <p>Additional assessment of these data gap areas is proposed in the RAP (Section 11) to confirm soils to be retained onsite are suitable.</p>
<p><i>Sampling density</i></p> <p><i>Soil:</i> The sampling density of 24 locations over approximately 0.82 ha exceeds the minimum recommended by EPA (2022) <i>Contaminated Land Guidelines, Sampling design</i> (20 recommended for a 0.9 ha area). The coverage provides a 95% confidence of detecting a residual hot spot of approximately 25 m diameter.</p> <p>The density of samples analysed from surface soils was low with most analysed samples targeting depths of 0.5 m. Limited samples were also collected from within the fill platform area and existing playing courts. Sampling in these areas was limited to the perimeters of the respective areas.</p> <p>Anthropogenics including brick and demolition waste was identified in fill in 7 locations but only three samples were analysed for asbestos in accordance with the quantification procedure in NEPM 2013 (field screening of 10L bulk samples for ACM > 7 mm and</p>	<p>In the Auditor’s opinion the sampling density was adequate for remedial planning purposes. While the density of near surface samples analysed by the laboratory is lower than for deeper samples, when considered in the context of the site history, field observations, soil analytical results and observations made by the Auditor’s assistant on site, the density is acceptable.</p> <p>The density of asbestos sampling in identified fill is also low but this will be addressed through a data gap investigation (DGI) to be completed within areas of fill following building demolition and removal of hardstand (discussed in Section 11.1).</p>

Sampling and Analysis Plan and Sampling Methodology	Auditor's Opinion
<p>laboratory analysis of 500 ml samples for AF/FA) which is a potential contaminant where building waste is observed.</p> <p><i>Dam water:</i> A total of 2 samples were obtained.</p>	
<p><i>Sample depths</i></p> <p>Soil samples were collected and analysed from a range of depths, with the primary intervals being 0.5 mbgl. A small number of deeper samples were obtained and analysed in the fill platform.</p> <p>Dam water samples were collected from approximately 0.1 m below the surface of the water.</p>	<p>In the Auditor's opinion, this sampling strategy was adequate to characterise the primary material types present on site. Further assessment of fill is to be completed in the DGI following removal of structures and hardstand.</p>
<p><i>Sample collection method</i></p> <p><i>Soil:</i> Sample collection was generally from mechanically excavated test pits however a small number of locations were collected from test pits excavated with hand tools.</p> <p>Samples collected from test pits were collected either directly from the excavation or from the excavator bucket.</p> <p>10 L bulk samples were collected from select locations where fill and anthropogenic inclusions were observed. A gravimetric assessment using a sieve was not undertaken however bulk samples were spread on a tarpaulin and visually assessed for ACM.</p> <p><i>Dam water:</i> Samples collected by hand as grab samples directly into laboratory supplied containers.</p>	<p>Sample collection from the open test pits can result in loss of volatiles. Given chemical contamination at the site has not been identified and potential point sources with associated volatile contaminants have also not been identified, this is not considered to be of great significance. The adopted soil sampling method is suited to the identification of ACM in fill material.</p> <p>Overall, in consideration of the contamination encountered, the sample collection method was found to be acceptable for remediation planning purposes.</p>
<p><i>Decontamination procedures</i></p> <p><i>Soil:</i> Decontamination of sampling equipment was not specified however a rinsate sample was obtained from the hand tools. New gloves were reportedly used for each new sample.</p> <p><i>Dam water:</i> Sampled directly into laboratory supplied containers. New gloves were reportedly used for each new sample.</p>	<p>Acceptable</p>
<p><i>Sample handling and containers</i></p> <p>Samples were placed into prepared and preserved sampling containers provided by the laboratory and chilled during storage and subsequent transport to the laboratories. Samples for asbestos analysis were placed in plastic zip-lock bags.</p> <p>Dam water samples to be analysed for heavy metals were field filtered.</p>	<p>Acceptable</p>
<p><i>Chain of Custody (COC)</i></p> <p>Completed chain of custody forms were provided in the report.</p>	<p>Acceptable</p>
<p><i>Detailed description of field screening protocols</i></p> <p><i>Soil:</i> Field screening for volatiles was undertaken using a Photoionisation Detector (PID). Soil sub-samples were placed in ziplock plastic bags and the headspace measured for VOCs after allowing time for equilibration.</p> <p><i>Dam water:</i> Field parameters were measured during sampling.</p>	<p>Acceptable</p>
<p><i>Calibration of field equipment</i></p> <p>The reports indicated that the water quality meter was calibrated however calibration certificates from the supplier were not provided. Calibration of the PID was not reported by REE.</p>	<p>Based on REE observations during sampling and the lack of identified potential sources of contamination with associated volatile contamination, this is considered acceptable for remedial planning purposes.</p>
<p><i>Sampling logs</i></p> <p>Soil logs are provided within the report, indicating sample depth, PID readings and lithology. With the exception of anthropogenic inclusions, the logs reported no indications of contamination.</p> <p>A separate sample register was also provided.</p> <p>Dam water field sampling records were not provided.</p>	<p>Acceptable</p>

Table 6.3: QA/QC – Field and Lab Quality Assurance and Quality Control

Field and Lab QA/QC	Auditor's Opinion
<p><i>Field quality control samples</i></p> <p>Field quality control samples including trip blanks, trip spikes, rinsate blanks, field intra-laboratory and inter-laboratory duplicates were undertaken.</p>	Acceptable
<p><i>Field quality control results</i></p> <p>The results of field quality control samples were generally within appropriate limits with some minor exceptions, mostly elevated relative percent difference calculations (RPDs) associated with variations in the sample matrix and/or concentrations close to the practical quantitation limit (PQL).</p> <p>Low concentrations of TRH were detected in the rinsate samples at the PQL.</p>	Overall, in the context of the dataset reported, the exceeded results are not considered significant and the field quality control results are acceptable.
<p><i>NATA registered laboratory and NATA endorsed methods</i></p> <p>Laboratories used included: SGS, and Eurofins mgt. Laboratory certificates were NATA stamped.</p>	Acceptable
<p><i>Analytical methods</i></p> <p>Analytical methods were included in the laboratory test certificates. The laboratories provided brief method summaries of in-house NATA accredited methods used based on USEPA and/or APHA methods (excluding asbestos) for extraction and analysis in accordance with the NEPM (2013).</p> <p>Asbestos identification was conducted by using polarised light microscopy with dispersion staining by method AS4964-2004 <i>Method for the Qualitative Identification of Asbestos Bulk Samples</i>.</p>	The analytical methods are considered acceptable for the purposes of the site audit, noting that the AS4964-2004 is currently the only available method in Australia for analysing asbestos.
<p><i>Holding times</i></p> <p>Review of the COCs and laboratory certificates indicate that the holding times had generally been met with the exception of biological parameters and mercury in the inter-laboratory duplicate dam water sample. REE reported that holding times have been met.</p>	Acceptable
<p><i>Practical Quantitation Limits (PQLs)</i></p> <p><i>Soil:</i> PQLs (except asbestos) were less than the threshold criteria for the contaminants of concern.</p> <p><i>Asbestos:</i> The limit of detection for asbestos in soil was 0.001% w/w.</p>	<p><i>Soil (except asbestos):</i> Overall the soil PQLs are acceptable.</p> <p><i>Asbestos:</i> In the absence of any other validated analytical method, the detection limit for asbestos is considered acceptable. A positive result would be considered to exceed the "no asbestos detected in soil" criteria, providing this is applied within a weight of evidence approach to assess the significance of the exceedance, accounting for the history of the site and frequency of the occurrence.</p>
<p><i>Laboratory quality control samples</i></p> <p>Laboratory quality control samples including laboratory control samples, matrix spikes, surrogate spikes, blanks, internal standards and duplicates were undertaken by the laboratory.</p>	Acceptable
<p><i>Laboratory quality control results</i></p> <p>The results of laboratory quality control samples were generally within appropriate limits, with some minor exceptions.</p>	In the context of the dataset reported, the minor exceptions are not considered significant, and the laboratory quality control results are acceptable.
<p><i>Data Quality Indicators (DQI) and Data Evaluation (completeness, comparability, representativeness, precision, accuracy)</i></p> <p>REE did not define DQIs and did not undertake a formal QA/QC data evaluation against the five category areas. They did, however, include a discussion on QA/QC but did not provide an overall conclusion.</p>	An assessment of the data quality with respect to the five category areas has been undertaken by the Auditor and is summarised in Section 6.1 below.

6.1. Auditor's Opinion

In considering the data as a whole the Auditor concludes that:

- The data is likely to be representative of the overall conditions.
- The data is considered adequately complete for preliminary remediation planning purposes, however, several data gaps have been identified that require further assessment as proposed in the RAP.
- There is a high degree of confidence that data is comparable for each sampling and analytical event.
- The laboratories have provided sufficient information to conclude that data is of sufficient precision.
- While most of the data is likely to be accurate, there is some doubt regarding possible loss of volatiles from sampling via test pits. However, the site history, PID readings and walkover inspections have not identified point sources of contamination which have associated volatile contaminants.

Overall, the Auditor considers the data adequate for determining remediation requirements.

7. ENVIRONMENTAL QUALITY CRITERIA

The Auditor has assessed the results against Tier 1 criteria from NEPM (2013). Other guidance has been adopted where NEPM (2013) is not applicable or criteria are not provided. Based on the proposed development including primary school uses, the Tier 1 screening human health criteria for 'residential with soil access' and ecological criteria appropriate for 'urban residential and public open space' were adopted.

7.1. Soil Assessment Criteria

Human Health Assessment Criteria

The Auditor has adopted human health assessment criteria from the following sources:

- NEPM (2013) Health Investigation Levels (HILs) for 'Residential' (HIL-A) land use.
- NEPM (2013) Health Screening Levels (HSLs) for 'Low-High Density Residential' (HSL-A&B) land use. The HSLs assumed a sand soil type. Depth to source adopted was <1 m as an initial screen.
- NEPM (2013) Management Limits (MLs) for petroleum hydrocarbons for 'Residential and Open Space' land use and assuming coarse soil texture. Criteria are relevant for operating sites where significant sub-surface leakage of petroleum hydrocarbons has occurred and when decommissioning industrial and commercial sites.
- NEPM (2013) HSLs for Asbestos Contamination in Soil for 'Residential A' (HSL-A) land use.

Ecological Assessment Criteria

The Auditor has adopted ecological soil assessment criteria from the following sources:

- NEPM (2013) Ecological Screening Levels (ESLs) for 'Urban Residential and Public Open Space' land use, assuming coarse soil.
- NEPM (2013) Ecological Investigation Levels (EILs) for 'Urban Residential and Public Open Space' land use. In the absence of site-specific soil data on pH, clay content, cation exchange capacity and background concentrations, the published range of the added contaminant limits have been applied as an initial screen.
- Canadian Council of Ministers of the Environment (CCME) (2010) *Canadian soil quality guidelines: carcinogenic and other polycyclic aromatic hydrocarbons (PAHs)* soil quality guideline (SQG) for

benzo(a)pyrene for 'Residential' land use. The SQG has been adopted in place of the NEPM (2013) ESL as it is based on a larger and more up-to-date toxicity database than the low reliability NEPM (2013) ESL.

Soil Aesthetic Considerations

The Auditor has considered the need for soil remediation based on 'aesthetic' contamination as outlined in *Section 3.6 Aesthetic Considerations* of NEPM (2013) Schedule B1, which acknowledges that there are no chemical-specific numerical aesthetic guidelines. Instead, site assessment requires a balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity.

7.2. Dam Water Assessment Criteria

The dam water sample has been assessed against criteria for protection of ecological receptors based on the likely dewatering and irrigation of dam water during the redevelopment. The ecological criteria considered were adopted from ANZG (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. 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. Where the chemical is considered to bioaccumulate, the 99% level of protection was adopted.

In addition, the criteria for thermotolerant coliforms outlined in Wash Water Safety, Department of Primary Industries, State of New South Wales through Department of Trade and Investment, Regional Infrastructure and Services 2011, (https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0009/433674/Wash-water-safety.pdf) has also been considered.

7.3. Consultants Assessment Criteria

The environmental quality criteria referenced by the Auditor are consistent with those adopted by REE, with the exception of the following:

- REE adopted ecological criteria applicable to 'Areas of ecological significance' whereas the Auditor adopted criteria for urban residential land use
- REE adopted the ANZG (2018) 99% protection level criteria for assessment of contaminants in dam water. Based on the urban nature of the catchment, the 95% criteria were adopted by the Auditor.

Given the results obtained, the Auditor considers that these discrepancies do not affect the overall conclusions reached by REE and the Auditor.

8. EVALUATION OF SOIL RESULTS

As outlined in **Table 6.1**, REE undertook intrusive investigations in accessible areas across the site during the DSI. The DSI locations are shown on **Attachment 2**. The following sections outline the soil field and analytical results of the DSI investigation.

8.1. Field Results

As noted in **Table 5.1**, anthropogenic inclusions were identified within fill in approximately 7 locations excavated into the edges of the fill platform (TP11, TP17, TP19, TP20, TP23 and TP24) and one test pit completed within the fill mound along the southern boundary (TP16) and included brick, concrete, plastic, asphalt, metal and timber. No asbestos was observed during the test pitting or in the three 10 L bulk fill samples from TP17, TP19 and TP20 that were spread across a tarpaulin and inspected for quantification purposes in accordance with the procedure in NEPM (2013).

No visual or olfactory indicators (e.g. staining, odours, free phase product) were noted during the investigations to suggest the presence of contamination within the soils at the site.

Field screening of soil samples was completed using a PID to detect VOCs during the DSI. REE reported that PID readings were generally low with results ranging from 0.2 ppm to 1.2 ppm.

8.2. Analytical Results

The analytical results for both fill (8 samples) and natural soils (10 samples) have been assessed against the environmental quality criteria listed in **Section 7** and are summarised in **Table 8.1**. Soil sampling locations are shown in **Attachment 2**.

Table 8.1: Evaluation of Soil Analytical Results – Summary Table (mg/kg)

Analyte	n	Detections	Maximum	n > Human Health Screening Criteria	n > Terrestrial Ecological Screening Criteria
ACM >7 mm	3	0	Not Detected	0 above HSL A 0.01%	-
AF/FA	3	0	Not Detected	0 above HSL 0.001%	-
Asbestos trace analysis	3	0	Not Detected	-	-
BTEXN	18	0	<PQL	0 above HSL A&B 0-1 m	0 above ESL
F1 (TRH C ₆ -C ₁₀ minus BTEX)	18	0	<PQL	0 above HSL A&B 0-1 m	0 above ESL
F2 (TRH >C ₁₀ -C ₁₆ minus naphthalene)	18	0	<PQL	0 above HSL A&B 0-1 m	-
TRH C ₆ -C ₁₀	18	0	<PQL	0 above ML	-
TRH >C ₁₀ -C ₁₆	18	0	<PQL	0 above ML	0 above ESL
TRH >C ₁₆ -C ₃₄	18	0	<PQL	0 above ML	0 above ESL
TRH >C ₃₄ -C ₄₀	18	0	<PQL	0 above ML	0 above ESL
Benzo(a)pyrene	18	0	<PQL	-	0 above ESL or CCME SQG
Benzo(a)pyrene TEQ	18	0	<PQL	0 above HIL A 3 mg/kg	-
Total PAHs	18	0	<PQL	0 above HIL A 300 mg/kg	-

Analyte	n	Detections	Maximum	n > Human Health Screening Criteria	n > Terrestrial Ecological Screening Criteria
Arsenic	18	8	7.8	0 above HIL A 100 mg/kg	0 above EIL (urban residential) 100 mg/kg
Cadmium	18	0	<PQL	0 above HIL A 20 mg/kg	-
Chromium	18	11	60	0 above HIL A 100 mg/kg	0 above most conservative ACL (urban residential) 190 mg/kg
Copper	18	5	32	0 above HIL A 6000 mg/kg	0 above most conservative ACL (urban residential) 60 mg/kg
Lead	18	9	11	0 above HIL A 300 mg/kg	0 above generic ACL (urban residential) 1100 mg/kg
Mercury	18	0	<PQL	0 above HIL A 40 mg/kg	-
Nickel	18	5	66	0 above HIL A 400 mg/kg	2 above most conservative ACL (urban residential) 30 mg/kg
Zinc	18	8	65	0 above HIL A 7400 mg/kg	0 above most conservative ACL (urban residential) 70 mg/kg

n number of samples
 - No criteria available/used
 NL Non-limiting
 <PQL Less than the practical quantitation limit

In assessing the results, the Auditor makes the following observations:

- Asbestos was not observed in soils during sampling or detected in the samples analysed. The sampling density was low for ACM and AF/FA, and further assessment is required to characterise fill material for asbestos prior to remediation and redevelopment of the site.
- Concentrations of TRH, BTEX and PAHs were reported below the PQL and the applicable land use criterion in all soil samples.
- Concentrations of metals were also generally low and below the adopted criteria however concentrations of nickel were identified in two shallow fill samples (S19 (0.5 mbgl) and S23 (0.3 mbgl)) above the most conservative ACL ecological criteria adopted by the Auditor. The Auditor considers that statistical analysis of the dataset for nickel would likely yield an average concentration below the most conservative ACL. The results are unlikely to impact site suitability and therefore remediation or further assessment is not considered to be required.

8.3. Auditor's Opinion

In the Auditor's opinion, the soil analytical results are consistent with the site history and field observations. The results indicate that widespread contamination of fill and natural materials by chemical contaminants is not present.

Asbestos has not been identified, however the assessment of asbestos was not undertaken in accordance with NEPM (low sampling density and some areas not assessed) and, there is potential to encounter fill materials containing asbestos during the development works.

There are data gaps in the investigation data in relation to areas that were not investigated during the DSI below current building footprints, playing courts, dam sediments and the dam overflow area. As noted in **Section 4.1**, REE identified additional contaminants of concern associated with uncontrolled fill material, including pesticides, which were not included in the analysis performed on soil samples.

Further assessment is required in areas which were inaccessible during the DSI to confirm soil conditions in these areas are suitable for use, or otherwise confirm if remediation is required. Analysis for pesticides is also required for fill samples. A scope for additional investigation of areas of concern following demolition is provided in the RAP, reviewed in **Section 11**.

9. EVALUATION OF DAM WATER RESULTS

REE obtained two surface water samples from the existing onsite dam during the DSI with locations shown on **Attachment 2**.

Surface water samples were collected by hand via sampling directly from the surface water body. A slight organic odour was noted by REE at both sample locations. Surface water samples were analysed for Metals, TRH, BTEX, PAHs, pH, E.coli and Faecal coliforms.

In assessing the analytical results, the Auditor makes the following observations:

- Concentrations of TRH, BTEX and PAHs were generally reported below the laboratory PQL. Low concentrations of TRH were reported marginally above the PQL in the SW2 sample and duplicate sample of SW1. These detections are likely to be attributed to natural organic sources (vegetation and trees) rather than a petroleum-based hydrocarbon source.
- Metals concentrations were also generally reported below the PQL, however, elevated concentrations of copper, chromium and zinc were identified in the two samples. The auditor considers that these concentrations are likely a result of urban stormwater runoff.
- Concentrations of E.coli and Thermotolerant coliforms were detected above the PQL in the SW2 sample only. Thermotolerant coliforms concentrations were above the acceptable limit of 1000/100 mL for water that does not contact part of a crop outlined in Wash Water Safety, Department of Primary Industries. However, Wash Water Safety, Department of Primary Industries notes irrigation water that does not directly contact a harvestable crop is a low risk.

9.1. Auditor's Opinion

In the Auditor's opinion the dam water analytical results are consistent with the site history and field observations. As part of the proposed development, the Auditor expects that the surface water in the dam will be dewatered via irrigation across the site and is not expected to be discharged directly to nearby sensitive receptors. The Auditor considers the approach to be acceptable.

10. EVALUATION OF CONCEPTUAL SITE MODEL

A conceptual site model (CSM) is a representation of the source, pathway and receptor linkages at a site. REE included a CSM in the RAP to inform requirements for further investigation and remediation. The Auditor has summarised the CSM used to determine further assessment and remediation requirements below:

- *Source:* Potential contaminated fill material underlying the fill platform and playing court areas.
- *Potential Pathway:* Direct contact, ingestion or inhalation of contaminated soil or inhalation of asbestos fibres.
- *Receptors:* Site construction workers, students, staff, ecological receptors (plants, soil organisms)

10.1. Auditor's Opinion

The CSM presented in the RAP did not include a visual representation (e.g. cross section) of potential SPR linkages. The Auditor is of the opinion that the CSM is adequate for determining additional assessment requirements and potential remediation requirements. The Auditor notes that soil conditions

within the area to the north of the playing courts, which was inaccessible during the DSI due to dam overflow, should be assessed.

There is the potential that building demolition during development could result in additional impact of surface soils by hazardous building materials (if present in buildings), including ACM and lead paint, if not managed appropriately.

11. EVALUATION OF PROPOSED REMEDIATION

11.1. Data Gap Investigation

As noted in **Section 8**, based on the results of the DSI, REE did not identify contamination requiring remediation. However, due to access constraints, two areas of the site (a fill platform and playing court area, shown on **Attachments 1 and 3**) were identified that were not able to be assessed during the DSI. Further assessment of the soil conditions below existing buildings and structures and hardstand areas in the data gap areas is proposed in the RAP following demolition of site structures and removal of hardstand surfaces. The RAP requires the DGI to comprise a combined total of 16 sample locations (8 per area) as illustrated in **Attachment 3**.

The RAP notes that sample locations are to be advanced using a hand auger or machinery into natural soil profile. Soil materials will be logged, including visual and olfactory observation of foreign material inclusions and any odours or staining. A PID will be used to screen for VOCs during soil sampling, with a reading taken for each soil sample collected. The analysis to be performed on samples collected was not documented in the RAP by REE, however, based on the contaminants of concern reported by REE in the CSM (metals, TRH, BTEX, PAHs, OCP, OPP and asbestos), these contaminants are assumed to be in the minimum analytical suite adopted.

Auditors Opinion

The sample density proposed in the RAP for the DGI is considered adequate to assess the two data gap areas following building/hardstand demolition. The RAP documents that sample locations should be by hand auger or mechanical excavations, it is more appropriate for all sample locations to be undertaken through test pitting with a mechanical excavator to allow visual assessment of the subsurface. The contaminants of concern required for analysis has not been documented, however the contaminants of concern identified in the CSM within the RAP should be considered for laboratory analysis and should be performed on samples obtained from varying depths. Assessment for asbestos should be undertaken in accordance with NEPM (2013) including gravimetric assessment of 10 litre bulk samples and 500 mL samples for AF/FA. The RAP does not outline the depth at which samples will be obtained, however, samples should be obtained from fill at the surface and at regular intervals thereafter (typically at depth intervals of no more than 0.5 m), or where there is a change in lithology, or where there is visual/olfactory evidence of potential contamination. Samples should also typically be collected at the interface of fill and underlying natural soil. Further assessment is also recommended to confirm soil conditions within the area to the north of the hardstand which was inaccessible during the DSI due to dam overflow.

11.2. Evaluation of the Extent of Remediation and the RAP

Based on the investigations previously completed and as discussed in **Section 8**, contamination requiring remediation has not been identified, however, there is the potential for areas of contamination to be identified during the DGI completed post-demolition. Based on the results of the DSI, these areas are likely to be limited in extent and be related to fill material that is aesthetically unsuitable or impacted by asbestos. REE included remedial options in the RAP that may be implemented if soil contamination, particularly asbestos, is identified during the DGI, which included the following:

- Option 1: Excavation and offsite disposal

- Option 2: Partial excavation and offsite disposal combined with onsite containment
- Option 3: Onsite containment and management
- Option 4: Onsite removal/treatment of ACM via emu picking

The Auditor has assessed the RAP by comparison with the checklist included in NSW EPA (2020) *Contaminated Land Guidelines, Consultants Reporting on Contaminated Land*. The RAP was found to generally address the required information, as detailed in **Table 11.1**, below.

Table 11.1: Evaluation of Remedial Action Plan

Remedial Action Plan	Auditor Comments
<p><i>Remedial Goal/Remediation Objective/Data Quality Objectives (DQOs)</i></p> <p>The RAP was prepared to provide a remediation and validation methodology to render the site suitable for the proposed Eileen O'Connor Catholic School should contamination be identified following the demolition of structures and completion of the DGI.</p> <p>The objective of the remediation program is to eliminate potential contamination SPR linkages at the site and reduce the risk of exposure to site receptors and ensure the site is suitable.</p> <p>RRE defined specific DQOs in the RAP which included the following decision:</p> <p><i>"Undertake a soil investigation following the completion of the demolition of the current structures in the fill platform and playing court areas to identify any potential contamination which may pose a risk to human health and/or the environment. If contamination is identified within the areas, can the site be made suitable for its intended land use with the requirement for remediation and/or management if necessary."</i></p>	<p>The specified DQOs and decision are considered appropriate and should ensure the remedial objective is achieved (if required).</p>
<p><i>Discussion of the Extent of Remediation Required</i></p> <p>Based on the investigations previously completed and as discussed in Section 8, contamination requiring remediation has not been identified. However, this may be subject to change based on the DGI findings as proposed in the RAP.</p> <p>The DGI is to be completed following building and hardstand demolition to confirm the extent of remediation required. As noted above, the extent of remediation is likely to be limited to the data gap areas, if required at all. Should remediation be required, the extent and preferred remediation strategy would be confirmed in an addendum to the RAP.</p>	<p>The requirement for remediation, including extent, is to be confirmed following completion of the DGI and detailed in an addendum to the RAP, if required, which is to be reviewed by the Auditor. This approach is considered appropriate.</p>
<p><i>Remedial Options</i></p> <p>Remedial options were assessed and discussed in Section 10.3 of the RAP and included the four options mentioned above.</p>	<p>The Auditor considers that an appropriate range of options were considered in the context of the results of the DSI, the proposed DGI and the proposed development.</p>
<p><i>Selected Preferred Option and Rationale</i></p> <p>A preferred option was not selected, however, REE considered that any of the presented options could be successfully implemented to make the site suitable for the proposed use. Following completion of the DGI and depending on whether contamination requiring remediation is identified,</p>	<p>Should the results of the DGI indicate that remediation is required, the preferred remedial option and rationale for selection is to be confirmed in an addendum to the RAP, which is to be reviewed by the Auditor. This approach is considered appropriate.</p>

Remedial Action Plan	Auditor Comments
<p>REE recommended that all parties involved assess each remedial option and choose the preferred strategy for inclusion as an addendum to the RAP. This decision should take into account human health, environmental impact, financial implications, long-term effects, and associated risks and liabilities.</p>	
<p><i>Description of Remediation to be Undertaken</i> The final remedial option selected will depend on the outcomes of the DGI and the nature and extent of contamination. The RAP notes that the final extent and strategy will be provided in an addendum to the RAP, however, an overview of the four remediation options is provided in the RAP. Regardless of the option selected, any fill materials that require excavation and removal to support the site's repurposing will be managed through standard protocols for waste classification and disposed of off-site at a licensed facility. Additionally, any remaining contaminated material must be capped and contained appropriately to prevent contact between contamination and site users, with minimum capping requirements and subject to ongoing management through an EMP.</p>	<p>The extent of remediation required is likely limited to the areas to be addressed in the DGI and consist of unsuitable fill material. The options described in the RAP for managing any potential identified contamination; excavation and off-site disposal, onsite containment or treatment to remove asbestos and subsequent validation, are all appropriate to address contamination if identified. The option selected will depend on the extent and nature of contamination if identified and the final option is to be detailed in an addendum to the RAP, which is to be reviewed by the Auditor. This approach is considered appropriate.</p>
<p><i>Proposed Validation Criteria</i> REE reported in Section 12.1 of the RAP that all validation sample results will be reported against the NEPM (2013) and WA DoH (2021) guidelines. Any validation samples which exceed the guidelines will require further excavation and re-sampling. REE included verification characterisation criteria for imported virgin excavated natural material (VENM) and topsoil in Table 6 of the RAP. No other validation criteria were specified for imported materials.</p>	<p>The land use scenario criteria to be adopted was not specified in the RAP however the Auditor considers the land use scenario criteria to be adopted should be the same as for the DSI and include NEPM (2013) human health criteria for residential with accessible soil and ecological criteria for urban residential/public open space. Imported materials will be required to be classified as either VENM, excavated natural material (ENM), or supplied in accordance with a suitable resource recovery order/exemption (RRO/RRE) published by the NSW EPA. At a minimum the validation criteria for imported materials should meet the requirements of the applicable RRO/RRE, be asbestos free and meet the NEPM (2013) human health criteria for residential with accessible soil and ecological criteria for urban residential/public open space. Should the results of the DGI indicate that remediation is required, the validation criteria to be adopted will need to be detailed in an addendum to the RAP, which is to be reviewed by the Auditor.</p>
<p><i>Proposed Validation Testing</i> <u>Excavations</u></p> <ul style="list-style-type: none"> Excavation floor – one sample per 25 m² of excavation floor, with a minimum of five samples. Samples will be analysed for heavy metals, BTEXN, TRH, OCP/OPP, PAHs and asbestos (% w/w). Excavation wall: 1 sample per 5 linear metres, or 1 per wall <5 linear metres, minimum of 4 wall samples. Samples will be analysed for metals, BTEXN, TRH, PAHs and asbestos (% w/w) <p><u>Imported Materials</u> Three samples per source site including once per month on a selected product imported (during months where materials are imported) and three samples per 250 m³ of import. Samples will be</p>	<p>The proposed validation schedule is not in accordance with general industry practices. The Auditor notes that the excavation floor frequency of one sample per 25 m² is appropriate, however, a minimum of five samples from excavation floors may be excessive, depending on the size of the excavation and the contaminant of concern. In addition, the analytical requirements should be applicable to the contaminants of concern identified. Should ACM impacts be identified, 10 L bulk samples will need to be obtained from excavation walls for a gravimetric assessment in accordance with NEPM (2013). The Auditor notes that imported material must either be VENM, ENM or be classified under a Resource Recovery Exemption. The density of testing would need to be commensurate with the documentation provided and the consistency of the results. Samples</p>

Remedial Action Plan	Auditor Comments
<p>analysed for heavy metals, BTEX, TRH, OCP/OPP, PAHs and asbestos (presence/absence).</p>	<p>analysed for asbestos should be 500 mL samples (% w/w).</p> <p>Should the results of the DGI indicate that remediation is required, the validation testing regime to be adopted will need to be revised in an addendum to the RAP, which is to be reviewed by the Auditor.</p>
<p><i>Contingency Plan if Selected Remedial Strategy Fails</i></p> <p>A contingency plan was not specified in the RAP. Procedures are provided for the unexpected finds and asbestos.</p>	<p>Should the results of the DGI indicate that remediation is required, upon selection of the preferred remedial strategy, a contingency plan for remedial strategy failures is to be detailed in an addendum to the RAP, which is to be reviewed by the Auditor. This approach is considered acceptable.</p> <p>The procedure for handling unexpected finds is appropriate and practical and can be implemented within the proposed remediation strategy.</p>
<p><i>Interim Site Management Plan (before remediation)</i></p> <p>An Interim Site Management Plan (before remediation) was not discussed in the RAP.</p>	<p>The Auditor notes that EPA (2020) requires a RAP to consider interim site management requirements prior to remediation. Based on the current dataset for the site, the Auditor considers that interim site management prior to remediation is not required however may need to be considered following completion of the DGI (should contamination be identified) and therefore exclusion from the RAP is considered acceptable at this time.</p>
<p><i>Site Management Plan (operation phase) including stormwater, soil, noise, dust, odour and WH&S</i></p> <p>A Site Management Plan (operational phase) was not discussed in the RAP.</p>	<p>The Auditor notes that EPA (2020) requires a RAP to consider site management requirements during remediation. Based on the current dataset for the site, the Auditor considers that site management during remediation will need to be considered following completion of the DGI (should contamination be identified) in an addendum to the RAP (reviewed by the auditor) and therefore exclusion from the RAP is considered acceptable at this time.</p>
<p><i>Remediation Schedule and Hours of Operation</i></p> <p>Indicative project duration and hours of operation were not discussed in the RAP.</p>	<p>The Auditor notes that the staging and scheduling of remediation will be determined based on whether remediation is required during the DGI, the development design and that hours of operation will be determined by development planning consent conditions.</p>
<p><i>Contingency Plans to Respond to Site Incidents</i></p> <p>A contingency plan in response to site incidents was not specified in the RAP.</p>	<p>The Auditor notes that EPA (2020) requires a RAP to consider contingencies in response to site incidents during remediation. Based on the current dataset for the site, the Auditor considers contingencies in response to site incidents during remediation will need to be considered following completion of the DGI (should contamination be identified) in an addendum to the RAP (reviewed by the auditor) and therefore exclusion from the RAP is considered acceptable.</p>
<p><i>Licence and Approvals</i></p> <p>REE reported in the RAP that the remedial works are classified as Category 2 under SEPP R&H.</p> <p>All remediation and validation works are to be undertaken in accordance Central Coast Council Development Control Plans and any other requirements issued by Council.</p> <p>Asbestos must be managed in accordance with the Work Health and Safety Act (2011), the Work Health and Safety Regulation (2017), How to Safely Remove Asbestos: Code of Practice (2021), SafeWork NSW Codes of Practice and NSW EPA (2014) Waste Classification Guidelines.</p>	<p>Acceptable</p>

Remedial Action Plan	Auditor Comments
<p>Asbestos removal must be completed under the supervision of a LAA and by a licensed asbestos removalist appropriately licensed to carry out Class A (friable) removals.</p> <p>SafeWork NSW must be notified by the licensed asbestos removalist contractor 5 days before the asbestos removal work is scheduled to commence.</p> <p>An appropriately licensed landfill should be selected and the material tracked from the Site to the landfill.</p>	
<p><i>Contacts/Community Relations</i> Contacts and community relations not provided.</p>	<p>The Auditor considers that contacts and community relations will need to be considered following completion of the DGI (should contamination be identified) in an addendum to the RAP (reviewed by the auditor) and therefore exclusion from the RAP is considered acceptable.</p>
<p><i>Staged Progress Reporting</i> REE reported that following conclusion of remedial works that a site validation report is to be prepared.</p>	<p>Reporting requirements of the DGI results were not specified in the RAP. Depending on the results obtained during the DGI, the Auditor considers that results can be reported in a DGI report should contamination not be identified. Should contamination requiring remediation be identified, the results should be documented in the addendum to the RAP to be reviewed by the Auditor.</p>
<p><i>Long Term Environmental Management Plan</i> A long term Environmental Management Plan (EMP) will be required should contamination be identified and is intended to remain onsite (capped).</p> <p>If required, the EMP must be prepared in accordance with NSW EPA (2020a). The EMP must be legally enforceable and publicly notifiable. The EMP must present a suitable enforcement and notification mechanism.</p>	<p>Should DGI works identify contamination requiring remediation, an addendum to the RAP will be required (and reviewed by the Auditor) which will need to specify the preferred remedial strategy. Should the preferred strategy include capping and containment of contamination onsite and ongoing management, then an EMP would be required to be prepared and reviewed by the Auditor. An enforcement mechanism for the EMP will be required.</p> <p>To allow for future enforceability of an EMP (if required), it would 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 or the site owner/operator to comply with the obligations of the EMP (if required) during site occupation.</p>
<p><i>Waste Management</i> Waste tracking and disposal was discussed in Section 13 of the RAP. All transport and disposal of waste must be done in accordance with relevant Australian standards and guidelines utilising the NSW EPA Integrated Waste Tracking Solution (ITWS). All licenses and approvals required for disposal of the material will be obtained prior to removal.</p> <p>Details of all soils removed from the site must be documented by the Principal Contractor. Weighbridge dockets, landfill receipts and consignment disposal confirmation are to be provided. A truck log is to be kept by the Head Contractor detailing disposed loads against on-site origin.</p> <p>All soil material to be excavated as part of the development and requiring offsite disposal, needs to be classified in accordance with NSW EPA (2014) Waste Classification Guidelines Part 1: Classifying Waste. No soil material is to leave the site without a classification.</p>	<p>Acceptable. It is noted that, with the exception of material covered by the REE ENM classification, a preliminary waste classification has not been completed. Data and observations obtained during the DGI along with data from the DSI should be used to confirm the waste classification.</p>

11.3. Auditor's Opinion

In the Auditor's opinion, the RAP does not meet all the requirements outlined in NSW EPA (2020), however generally provides an adequate framework for the assessment of the identified data gaps and for decision making should remediation be required. The nature and extent of soils requiring remediation is to be confirmed following the DGI in an addendum to the RAP that confirms the adopted remediation strategy. The addendum to the RAP should also consider the Auditors comments noted in **Table 11.1**. A waste classification should be prepared for any soils to be disposed off-site.

12. CONCLUSIONS AND RECOMMENDATIONS

REE concluded in the RAP that *"This Remediation Action Plan (RAP) has been developed to address the potential contamination that may be present in the in-situ soils following the demolition of structures in the fill platform and playing court areas located in the northwestern section of the Eileen Catholic School at 84 Gavenlock Road, Mardi, NSW 2259 (the site).*

If contamination is encountered and the measures outlined in this RAP are successfully implemented, along with appropriate validation assessments and reporting after successful remediation and validation work, the site can be deemed suitable for future use as the Eileen O'Connor Catholic School.

Documentation demonstrating the success of the remediation will be required in a subsequent Site Validation Report (SVR) at the conclusion of the remedial work. Additionally, documented ongoing management procedures will be established within a Long-Term Environmental Management Plan (LTEMP) for any residual contaminated materials that remain onsite."

Based on the results of the investigations completed to date, contamination has not been identified at the site, however, there are data gaps that require further assessment. There is the potential for fill impacted by asbestos and/or other contaminants to be present in these areas, hence a RAP has been prepared to provide a framework to ensure the data gaps are assessed and any identified contamination remediated to make the site suitable for the proposed use. Assessment of the data gap areas is required following building demolition and removal of hardstand surfacing.

Although the RAP does not fully meet the requirements outlined in NSW EPA (2020), it provides an adequate framework for the assessment of data gaps and provides remedial options that can be considered should contamination be identified during further assessment. The extent and nature of soils requiring remediation is to be confirmed following the DGI in an addendum to the RAP that confirms the adopted remediation strategy. The addendum to the RAP should also consider the Auditors comments noted in **Table 11.1**.

It is recommended that the following actions be completed to ensure the RAP is adequately implemented:

- Completion of the DGI in accordance with the RAP, including consideration of Auditor comments made in **Section 11.1** and **Table 11.1** of this IAA and preparation of a DGI report confirming suitability of the site for the proposed use. The DGI should be undertaken following removal of buildings and hardstand, and prior to commence of construction.
- If, based on the results of the DGI, remediation is required then an addendum to the RAP should be prepared that defines the nature and extent of remediation required and confirms the adopted remedial strategy and validation requirements. The addendum to the RAP should also consider the Auditors comments noted in **Table 11.1**. If the remedial strategy includes cap and containment, the RAP addendum will need to include capping design and an outline of an environmental management plan (EMP). The RAP addendum should be reviewed and approved by the Auditor prior to implementation.
- The RAP and RAP addendum (if required) are to be implemented during redevelopment of the site.

- Preparation of a validation report at completion of remediation works (if required) confirming the site is suitable for the proposed use.
- If a cap and containment remedial strategy is implemented during remediation and validation works, preparation of an environmental management plan (EMP) outlining long term management requirements for the capped residual contamination.
- Completion of a Section A site audit statement (SAS) and supporting site audit report (SAR), prior to occupation of the site.

To ensure the site remediation and development is completed in accordance with the RAP and to allow for future enforceability of an EMP (if required), it is recommended that the Consent Authority include conditions of consent that require:

- Completion of a Section A SAS prior to occupation of the development.
- Conditions of any SAS to become conditions of the consent or the site owner/operator to comply with the obligations of the EMP (if required) during site occupation.

13. LIMITATIONS

This interim audit advice was conducted on behalf of Stanton Dahl Architects Pty Ltd for the purpose of assessing the suitability and appropriateness of a remedial action plan (RAP). This summary report may not be suitable for other uses.

The Auditor has relied on the documents referenced in **Section 1** in preparing the Auditor's 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.

* * *

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.

Yours sincerely
Ramboll Australia Pty Ltd



Louise Walkden
EPA Accredited Site Auditor 1903

D 02 9954 8138
M 0433 982 855
lwalkden@ramboll.com

Attachments: 1 Site Locality Plan
2 DSI Sample Location Plan
3 Data Gap Areas and Proposed Sample Locations

Attachment 1: Site Locality Plan



RAW EARTH
ENVIRONMENTAL

 St Peters Catholic
College Boundary

 Site Boundary


 Data Gap
Investigation Area



Figure 2:
Site Layout Plan

Project:
Remediation Action Plan:

84 Gavenlock Road, Mardi
NSW 2259.

Attachment 2: DSI Sample Location Plan



Attachment 3: Data Gap Areas and Proposed Sample Locations



RAW EARTH
ENVIRONMENTAL



Site Boundary



Data Gap
Investigation Areas



Proposed Test Pit
Sample Location

Figure 3:
Investigation Plan

Project:
Remediation Action Plan:

84 Gavenlock Road, Mardi
NSW 2259.

