

Pocket Park (Stage 6A), Former Schofields Aerodrome, Triton
Parade, Nirimba Fields NSW 2763

Audit Number: MP169_08

28 May 2026

Site Audit Report





Document Information

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Audit Number: MP169_08

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List of Acronyms

Acronym	Definition
Measures	
%	Per Cent
µg/L	Micrograms per Litre
µS/cm	Microsiemens per Centimetre
km	Kilometres
m	Metre
mAHD	Metres Australian Height Datum
mbgl	Metres below ground level
mbtoc	Metres below top of casing
mg/L	Milligrams per Litre
mm	Millimetre
mV	Millivolt
ppm	Parts Per Million
w/w	Weight/weight
ABC	Ambient Background Concentrations
ACL	Added Contaminant Limit
ACM	Asbestos-containing Material
ADWG	Australian Drinking Water Guidelines
AEC	Area of Environmental Concern
AFFF	Aqueous Film Forming Foam
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand Guidelines

Acronym	Definition
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes & Naphthalene
CLM Act	NSW Contaminated Land Management Act 1997
CRCCARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
CSM	Conceptual Site Model
DA	Development Application
DGV	Default Guideline Value
DHA	Defence Housing Australia
DP	Deposited Plan
DQI	Data Quality Indicator
DQO	Data Quality Objective
DSI	Detailed Site Investigation
EIL	Ecological Investigation Level
EOW	Explosive ordnance waste
EPA	Environment Protection Authority (NSW)
ESL	Ecological Screening Level
FFTA	Former Fire Training Area
GITA	Geotechnical Inspection and Testing Authority
GMRRW	Guidelines for Managing Risks in Recreational Water
GW	Groundwater
HDPE	High-density polyethylene



Acronym	Definition
HEPA	National Chemicals Working Group of the Heads of EPA Australia and New Zealand
HIL	Health Investigation Level
HSL	Health Screening Level
IAA	Interim Audit Advice
MEA	Material Emplacement Area
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NRMMC	Natural Resource Management Ministerial Council
OCP	Organochlorine Pesticides
OPP	Organophosphorus Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PFHxS	Perfluorohexane Sulfonate
pH	A measure of acidity, hydrogen ion activity
PID	Photoionisation Detector
PQL	Practical Quantitation Limit
PVC	Polyvinyl Chloride

Acronym	Definition
QA/QC	Quality Assurance/Quality Control
RAAF	Royal Australian Air Force
RAN	Royal Australian Navy
RPD	Relative Percent Difference
SAA	Small Arms Munition
SAQP	Sampling Analysis and Quality Plan
SAR	Site Audit Report
SAS	Site Audit Statement
SEPP	State Environmental Planning Policy
SW	Surface Water
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UXO	Unexploded Ordnance
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compounds



1.0 Introduction

A site contamination audit has been conducted in relation to the site known as 'Pocket Park' or 'Stage 6A' located within the former Schofields Aerodrome which has been developed into a new recreational public park. It is located at Triton Parade, within a new residential estate with suburban road network, retail/business, a new school and recreational areas called Nirimba Fields.

Pocket Park ('the audit site' or 'the site') is shown in Attachment 1 to 3 (**Appendix A**). It is approximately 0.57 hectares and is located roughly in the northern centre of the former Schofields Aerodrome (which is approximately 135 hectares).

1.1 Audit Objective

Development consent DA-20-02031 (determination date of 18 November 2021) and DA-19-01497 (determination date of 20 October 2020) were granted by Blacktown City Council, however, they do not have any conditions requiring a site audit to be completed.

Condition 8.2.1 of DA-19-01497 and condition 6.2.1 of DA-20-02031 state *"All areas that are suspected to be contaminated must be remediated. Upon completion of remediation an appropriately qualified environmental consultant must prepare a validation report..."*

This current audit was initiated to comply with a requirement of a Work In Kind Agreement between DHA and Blacktown City Council and is therefore a voluntary audit.

As part of the Section B site audit completed for Remaining Site Area (refer to **Section 1.2** below), notification of the site audit (MP169_03) was forwarded to the EPA on 19 February 2025.

1.2 Background and Previous Site Audits

The former Schofields Aerodrome (including Pocket Park) was previously audited by another auditor with:

- A Section A site audit in 2013 conducted by Environ: Site Audit Report – Part of Former Schofields Aerodrome, Lot 400 in DP1171596, audit number GN481 dated September 2013. This is referred to as 'Environ 2013' or 'the 2013 Section A SAR'.

Previously, Pocket Park has been subject to the following site audit:

- Section B site audit in October 2021 for Remaining Site Area conducted by the auditor: Site Audit Report, Remaining Site Area, Former Schofields Aerodrome, off Mariner Avenue, Schofields NSW 2762 and Site Audit Statement dated 22 October 2021 (reference: MP169_03_R1). This is referred to as 'Senversa 2021' or 'the Remaining Site Area SAR'.

The scope of the Remaining Site Area SAR was limited to potential Per- and Polyfluoroalkyl Substances (PFAS) legacy contamination only (i.e. other non-PFAS contaminants were excluded) and did not include review of the import and export of material. The auditor understands that since 2021, imported soil (virgin excavated natural material [VENM]) has been imported and placed within Pocket Park.

The rest of the former Schofields Aerodrome external to Pocket Park have been separately audited by the auditor since 2021 and for brevity, they are not discussed here.



1.3 Scope of the Audit

Details of the audit are:

Requested by: [REDACTED] on behalf of Defence Housing Australia (DHA)

Request/Commencement Date: 26 February 2026 (date of engagement specifically for the audit of Pocket Park, noting that the auditor has been engaged since 2021 for the wider former Schoefield Aerodrome)

Auditor: [REDACTED]

Accreditation No.: [REDACTED]

The scope of the audit included:

- Review of the following reports:
 - Ramboll (2021) PFAS Validation Report, Former Schofields Aerodrome, Remaining Site Area, Final F1, 21 October 2021. This report was previously reviewed as part of the Remaining Site Area Audit, but is referred to in this audit for background or context as it refers to the wider former aerodrome.
 - Ramboll (2026a) Sampling and Analysis Quality Plan, Nirimba Fields – Work Land and Subdivision Stage Areas, Former Schofields Aerodrome, V2.0, 27 February 2026. This is hereafter referred to as the ‘SAQP’.
 - Ramboll (2026b) Detailed Site Investigation, Pocket Park, Defence Housing Australia – Nirimba Fields Investigation, V4.0, 27 May 2026. This is hereafter referred to as the ‘DSI’.
 - Ramboll (2026c) Groundwater and Surface Water Monitoring Report, Nirimba Fields, Sitewide Investigations, V3.0, 27 May 2026. This is hereafter referred to as the ‘GW and SW Monitoring Report’.
- A site visit by the auditor on 2 December 2025 and 26 May 2026.
- Discussions with DHA, Blacktown City Council and with Ramboll Australia Pty Ltd (Ramboll) who undertook the investigation.

During the course of the audit, letters of Interim Audit Advice (IAA) were issued by the auditor, and they are provided in **Appendix C**:

- Interim Audit Advice No. 1 dated 29 April 2026.
- Interim Audit Advice No. 2 dated 27 May 2026.



2.0 Site Details

2.1 Location

The site locality is shown on Attachment 1 to 3 (**Appendix A**).

The site details are as follows:

Street address:	Triton Parade, Nirimba Fields NSW 2763.
Identifier:	Lot 6001 DP1261631.
Local Government:	Blacktown City Council.
Owner:	DHA.
Site Area:	Approximately 0.57 hectares.

A survey plan of Pocket Park has been provided as Attachment 7 (**Appendix A**).

2.2 Zoning

In accordance with the State Environmental Planning Policy (Precincts – Central River City) 2021 (current version for 1 April 2026 to date), the current zoning of the site is:

- RE1 – Public Recreation.

2.3 Adjacent Uses

The surrounding site uses include:

- North: newly constructed residential houses, an open channel (Channel 3) and more residential properties further north.
- East: newly constructed residential houses, and Blacktown Richmond Railway line approximately 350 m to the east of the eastern boundary of Pocket Park.
- South: a public school, vacant land (Reserve 980), and newly constructed residential houses.
- West: vacant land (future community centre), Aerodrome Drive, followed by a surface water culvert/drain and retention Basin 5, an access road, grassed open area and Eastern Creek.

Previous drainage channels in the former Schofields Aerodrome had been filled with newer retention ponds and drainage channels (external to Pocket Park) as part of the development of the Nirimba Fields residential estate. The DSI indicated that a former drainage channel ran along the northeastern boundary of Pocket Park. It has since been backfilled with VENM of at least 4 m thick according to the Overall Cut Fill Plan presented as Attachment 4 (**Appendix A**).

Eastern Creek, the closest sensitive ecological receptor, is located approximately 545 m west of the Pocket Park. Eastern Creek forms part of the South Creek Catchment that flows into the Hawkesbury River.



2.4 Site Condition

Pocket Park is described by Ramboll as “*landscaped public open space parcel developed as a park, including open grassed areas, pedestrian pathways, seating, playground equipment and associated park infrastructure*”. It is relatively flat at 19 to 20 mAHD.

The following was noted by the auditor during the site visit conducted on 2 December 2025 and 27 May 2026:

- The audit site was fully constructed with a children’s playground, benches and an undercover seating area with tables.
- Ground cover consisted of grass and concrete pedestrian footpath.
- Trees and scrubs were observed in landscaped garden areas around the edges and the middle of the park.
- There is a slight grassed mound around the southern and south-eastern portion the park.
- No stockpile of waste, surface water body or pooled surface water was observed.

2.5 Proposed Development

Pocket Park has been developed for public open space and recreational land use and is proposed to remain so. The park comprises open grassed areas, landscaped garden beds, pedestrian pathway, a pavilion and bench seating, and playground equipment.

For the purposes of this audit, the ‘public open space’ land use scenario will be assumed.



3.0 Summary of Previous Audits and Environmental Investigations

Table 3-1 provides a summary of the audit and environmental investigations conducted to date that are relevant to Pocket Park.

Table 3-1: Summary of Audit and Assessment Events

Date	Activity	Reference
2005	Section A Site Audit Report for the entire former Schofields Aerodrome was completed by [REDACTED] (ref: Site Audit Report, Lot 4 DP853847 Part of Schofields Aerodrome and Site Audit Statement [SAS] GN 6-1 dated 16 May 2005. The SAS stated that the former aerodrome (including Pocket Park) was suitable for sensitive use including “<i>residential with accessible soil, including garden...excluding poultry</i>” and “<i>day care centre, preschool, primary school</i>”.	Environ 2005.
2013	Section A Site Audit Report for the entire former Schofields Aerodrome was completed by [REDACTED] (ref: Site Audit Report – Part of Former Schofields Aerodrome, Lot 400 in DP1171596 and Site Audit Statement [SAS] GN481 dated 25 September 2013). This 2013 audit was conducted to incorporate results of investigation and remediation conducted and the changes in guidelines and legislation since 2005. An environmental management plan (EMP) was prepared to identify and manage unexpected finds. No significant contamination was found in groundwater and the audit recommended that if groundwater was abstracted, its suitability for use be assessed. The audit also indicated that the major sources of contamination have been removed from the former aerodrome. The SAS stated that the former aerodrome was suitable for sensitive use including “<i>residential with accessible soil, including garden...excluding poultry</i>” and “<i>day care centre, preschool, primary school</i>”.	Environ 2013.
June to September 2021	Ramboll conducted a soil field program targeting the Remaining Site Area (which covers an area larger than Pocket Park). This included collection and analysis of the following for PFAS compounds only: • Soil samples at 407 locations (including 206 new soil bores and 12 new groundwater monitoring bores). • 13 groundwater samples from the 12 newly installed groundwater monitoring bores (including MW01). It should be noted that this field program was completed to support a Section B site audit which was to restrict to PFAS contamination associated with historical site activities and site use an aerodrome (refer to row below). The following sampling locations were located within Pocket Park (refer to Attachment 2 (Appendix A): • TS_SS018 (targeting topsoil at the 2021 site surface which was scaped topsoil from the original site surface prior to the bulk VENM importation). • DR_BH010 and DR_BH022 (targeting the fill/topsoil interface of the backfilled former drainage line). • MW01 (groundwater monitoring bore which was sampled once in July 2021 as it was later found to be destroyed or non-serviceable).	Senversa 2021.
October 2021	A Section B Site Audit completed for Remaining Site Area (which was proposed for future residential and public open space land use) conducted by the auditor. Only the nature and extent of PFAS contamination at the Remaining Site Area associated with historical site activities and site use as an aerodrome, was assessed as part of this audit and all other contaminants were excluded. The Remaining Site Area SAR concluded the following: • The nature and extent of the PFAS contamination have been appropriately determined. • The risk to human health and the environment posed by the soil and groundwater are considered to be acceptable for the proposed land use. Extraction of groundwater for any purpose within the audit site was documented in the Validation Report to be not proposed or not likely due to the high salinity and poor yield from clayey aquifer.	Senversa 2021.



Date	Activity	Reference
October and November 2025	Ramboll conducted a groundwater and surface monitoring event to characterise the 'site-wide' hydrogeology and groundwater quality of the 'Work Land and Subdivision Stage areas' and Reserve 980 which encompass majority of the former Schofields Aerodrome, and surface water quality in Eastern Creek. Pocket Park (the audit site) is located within the 'Work Land and Subdivision Stage areas'. This work was conducted to inform area specific DSIs and support validation of land suitability for future development. The scope included: - Groundwater monitoring event involving sampling of a network of 15 groundwater monitoring bores: 12 existing bores – MW03 to MW06, MW08 to MW09, MW11 to MW13, and R980_MW01 to R980_MW03. 3 recently installed bores – MW14, MW15 and MW16. - Surface water monitoring event involving sampling at six locations along Eastern Creek. All the sampling locations are located outside of Pocket Park, except for MW16. The new monitoring bore MW16 replaced MW01, which was reported to have been destroyed. <u>Groundwater</u> The groundwater results indicated the following: - Most organic contaminants (TRH, BTEX, PAHs, pesticides, PCBs and VOCs) were not detected or below the assessment criteria. - Metals (copper, nickel and zinc) exceeded Default Guideline Values (DGV) in ANZG (2018) ecological guideline values in several bores (refer to Section 7.0). Other than this, the metals were all below the human health recreational criteria. - All PFAS concentrations were below human health recreational criteria. - PFOS exceeded the ANZG (2018) 99% species protection ecological value (0.02 µg/L) in one well (R980_MW02) at 0.033 µg/L only. - PFOS in nine out of 15 monitoring bores exceeded the ANZG (2018) biota screening threshold of 0.0005 µg/L, noting that these are groundwater concentrations and not concentrations are point of exposure in Eastern Creek. Groundwater results are consistent with previous monitoring events, showing no increasing trends. <u>Surface water</u> The surface water results indicated the following: - Copper and zinc exceeded 95% species protection ecological guidelines at multiple locations, both upstream and downstream of the former aerodrome. - PFOS concentrations were below the 99% species protection value (0.02 µg/L) but measured above the ANZG (2018) biota screening threshold of 0.0005 µg/L at all locations. - All other concentrations were not detected or below the adopted assessment criteria. Slightly higher PFAS concentrations were observed upstream of the former aerodrome, indicating regional background influences in the surface water at Eastern Creek adjacent to former aerodrome. <u>Conclusions</u> Ramboll concluded the following: - Metals detected in groundwater and surface water are considered naturally occurring or regionally derived, consistent with historical data and aquifer lithology. - PFAS in groundwater represents a potential but attenuated pathway to Eastern Creek due to: - Low groundwater velocities, - Dilution, sorption and dispersion, - Limited and episodic groundwater-surface water interaction. - PFAS concentrations in Eastern Creek are comparable upstream and downstream, indicating no measurable contribution from site groundwater. - Qualitative assessment of higher-order air-breathing predators concluded that exposure pathways are incomplete and ecological risk is low. - In terms of risks: - Risks from groundwater and surface water contamination, including PFAS, are low and acceptable for current and proposed land uses at the former Schofield Aerodrome. - Risks to aquatic ecosystems in Eastern Creek are low and acceptable. Surface water quality reflects regional background conditions, with no evidence of significant site-derived impacts. Ramboll recommended that six-monthly groundwater and surface water monitoring over a two-year period be conducted to confirm ongoing site stability and support future DSIs and Section A Site Audit Statements for different areas of the former aerodrome.	Ramboll 2026c.



Date	Activity	Reference
December 2025	Ramboll conducted a detailed site investigation at Pocket Park investigating the soil condition. The scope of the DSI comprised: • Review of historical assessment reports for the former Aerodrome and Pocket Park. • Drilling of eight soil bores (S6A_BH01 to S6A_BH08) as shown in Attachment 3 (Appendix A). • Collection and analysis for soil samples for contaminants of concern. • Integration of results from the site-wide groundwater and surface water investigation from October-November 2025 (discussed in the row above) to inform hydrogeology and groundwater quality at Pocket Park (and wider Nirimba Fields). The GW and SW Monitoring Report was included as Appendix 2 of the DSI. The overall objective of the DSI to <i>“assess whether the Pocket Park area is suitable for its proposed recreational land use and provide recommendations for further action(s), if required.”</i> The DSI also presented 37 VENM certificates associated with the VENM imported and placed at the former Schofields Aerodrome (including Pocket Park) as part of the bulk filling works. Ramboll reviewed the VENM certificates and identified that the materials imported were consistent with the definition of VENM within NSW EPA Waste Classification Guidelines (2014).	Ramboll 2026a and 2026b.



4.0 Site History

4.1 Summary of Site History

The DSI presented the site history of the former Schofields Aerodrome which was based on review of historical aerial photographs, title search, anecdotal information from interviews, photographs and plans provided by DHA. The auditor has summarised the site history as presented in the DSI below:

- Pre-1851 – Undeveloped land.
- 1851 to 1942 – Dairy and orchard agricultural land.
- 1942 to 1975 – Training base and airfield by Royal Australian Air Force (RAAF) and Royal Australian Navy (RAN). The site included runways, repair stores, sleeping huts, offices, sewerage treatment plant, machine gun test butt and a fire training area. Aqueous film forming foam (AFFF) were used for firefighting purposes at the former fire training area (FFTA). A separate section of the former aerodrome was used as a migrant hostel. A piggery, sports field and weapons electrical engineering school were present from 1952 to 1975.
- 1975 to 1993 – Former aerodrome was used by Schofields Flying Club where light planes were housed and maintained.
- 1986 – The piggery was demolished, and an airship (blimp) hangar was constructed.
- 1993 to 2017 – Vacant and miscellaneous use (such as go-cart track, driver training, film set, training facility for Sydney 2000 Olympics). Demolition of some structures. The northern part of the former aerodrome was used as a staging area for the Blacktown-Richmond rail line duplication.
- 2012 – The former aerodrome was rezoned for urban development as part of the precinct development.
- 2015 – DHA purchased the former aerodrome land from Department of Defence.
- 2018 to 2019 – Land clearing to facilitate construction of new residential estate Nirimba Fields which included “*significant land raising earthworks*” to mitigate flooding risk from Eastern Creek. Vast amount of VENM has been imported and placed over the former aerodrome. The former drainage lines have been backfilled with approximately 3 to 6 m of VENM as part of the site development works. Material from FFTA and ‘No Scrape Area’ of the former aerodrome were excavated and placed into PFAS Material Emplacement Area (PFAS MEA). The FFTA, ‘No Scrape Area’ and PFAS MEA are all located outside of Pocket Park.
- 2019 onwards to current – the former Schofields Aerodrome was progressively developed into a new residential estate with construction of new low-density residential properties, suburban roads, recreational areas, a school and associated infrastructure.
- March to April 2023 – Pocket Park was constructed.

Ramboll has documented that the Pocket Park is situated within the following historical ‘areas of environmental concern’:

- Rest (‘Remainder’) of site. The 2013 Section A SAR previously addressed this matter, noting that additional sampling was not considered warranted and that an unexpected finds protocol was in place at the site.
- Groundwater. This was also previously discussed in the 2013 Section A SAR, noting that the sampling results did not indicate groundwater impacts from soil contamination.
- Background areas. This was previously discussed in the 2021 Remainder of Site Area Validation Report, noting no elevated PFAS concentration was reported during the validation sampling undertaken.
- Infilled former drainage lines. This was also previously discussed in the 2021 Remainder of Site Area Validation Report, noting that no elevated PFAS soil concentration was detected during the validation sampling.



Other than infilled former drainage lines, the auditor does not consider the first three areas listed above to be 'areas of environmental concern' as they are not associated with any identified actual or potential point sources of contamination. They are basically general areas of the former aerodromes that has been backfilled with VENM during bulk earthworks.

Overall, the auditor considers that the site history review conducted to date provides an adequate indication of past activities.

4.2 Contaminants of Concern

Ramboll provided a list of the contaminants of concern and potentially contaminating activities. These have been tabulated in **Table 4-1**.

Table 4-1: Contaminants of Concern

Activity	Potential Contaminants
Imported fill (VENM)	Total Recoverable Hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylenes (BTEX), heavy metals, polycyclic aromatic hydrocarbons (PAH), organochlorine pesticides (OCP), organophosphorus pesticides (OPP), polychlorinated biphenyls (PCB), volatile organic compounds (VOC), asbestos and PFAS.
Historical aerodrome operations and remediation	TRH, BTEX, heavy metals, PAH, OCP, OPP, PCBs, asbestos and PFAS.
Construction of Pocket Park	TRH, BTEX, heavy metals, PAH, OCP, OPP, PCB and PFAS.

Note:

PFAS, including perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), perfluorohexane sulfonate (PFHxS), and sum of PFOS and PFHxS.

The auditor considers that the analyte list used by Ramboll adequately reflects the site history and condition.



5.0 Stratigraphy and Hydrogeology

Following a review of the reports provided, a summary of the site stratigraphy and hydrogeology was compiled as follows.

5.1 Stratigraphy

The sub-surface profile of the site as reported in the DSI, is summarised in **Table 5-1**.

Table 5-1: Generalised Stratigraphy

Depth (mbgl)	Subsurface Profile
0.0 – 2.4 to >4	FILL (imported VENM): sandy clay with shale and sandstone fragments, red/brown/orange, aggregate gravels, loose on surface and hard below.
2.4 to >4	Natural CLAY: orange/brown/red, white or grey mottling, hard.

Notes:

mbgl – metres below ground level.

4 mbgl was the maximum depth of the investigation.

MW16 was drilled to 6.5 mbgl and fill soil was encountered from surface to approximately 3.1 mbgl overlying natural soil (silty clay and silty sand).

5.2 Hydrogeology

Groundwater at the former aerodrome was previously reported to be typically less than 2 mbgl (Environ 2013) and was anticipated to flow westerly towards Eastern Creek. This is consistent with the hydrogeology summarised in the Remaining Site Area SAR, noting that due to the subsequently raised ground level that the groundwater had been encountered at greater depths.

Ramboll's summary of the hydrogeological setting as reported in the GW and SW Monitoring Report is presented in **Table 5-2**.

Table 5-2: Hydrogeological Setting (Former Schofields Aerodrome)

Aspect	Details
Saturated Geological Layers	Clay, silty clay, weathered shale.
Depth to Water	0.51 metres below top of casing (mbtoc) to 5.42 mbtoc.
Groundwater Elevation	14.86 mAHD to 22.42 mAHD.
Hydraulic Conductivity	0.0002 m/day (average literature value for clay materials based on Domenico and Schwartz 1990).
Effective Porosity	6% (literature value for clay materials based on Heath 1983).
Groundwater calculated average linear velocity	0.000024 m/day.
Interpreted Flow Direction	West towards Eastern Creek.



Aspect

Details

Groundwater Quality

- Dissolved oxygen ranged from 0 mg/L to 1.55 mg/L.
- Electrical conductivity ranged from 489 $\mu\text{S}/\text{cm}$ to 28,259 $\mu\text{S}/\text{cm}$.
Measured total dissolved solids ranged from 318 mg/L to 9,795 mg/L.
- Redox potential ranged from -123.1 mV to 58.5 mV.
- pH ranged from 6.1 to 7.1.
- Temperature ranged from 15.8 °C to 21.9 °C.

Note:

Groundwater data from sampling conducted in November 2025.

It is noted that only MW08 (located near the former Sewage Treatment Plant and Landfill 2, approximately 870 m southwest of Pocket Park) recorded electrical conductivity less than 500 $\mu\text{S}/\text{cm}$. All other groundwater monitoring bores located across the former aerodrome measured 1,233 to 28,259 $\mu\text{S}/\text{cm}$. MW16 located at Pocket Park measured 16,175 $\mu\text{S}/\text{cm}$ which indicated groundwater at Pocket Park to be highly saline.

As indicated in Attachment 3 and 6 (**Appendix A**), there is only one groundwater monitoring bore MW16 at Pocket Park. Groundwater at MW16 was gauged to be 1.8 mbgl (1.61 mbtoc or 20.9 mAHD) in November 2025.

Due to the high salinity and likely poor yield from natural clays, groundwater at Pocket Park is unlikely to be extracted for use such as irrigation and there is currently no groundwater extraction bore present. Ramboll also documented that there was no registered groundwater bore located within 1 km of the former aerodrome.

The nearest surface water bodies to Pocket Park are:

- A drain/culvert and retention Basin 5 located approximately 185 m to the west.
- A drainage basin (Channel 1 Extension Basin) approximately 400 m southwest, located east of Eastern Creek.
- Eastern Creek located approximately 545 m west of the site.

Ramboll reported that groundwater from the Pocket Park is likely to flow into Eastern Creek (which is the primary receptor of groundwater), and surface water from the audit site is likely to infiltrate site soil and/or flow into Basin 5 located west of the Pocket Park.

The auditor considers that the depth of fill, underlying stratigraphy and hydrogeology have been adequately characterised and concurs that groundwater at Pocket Park is unlikely to be extracted for use.



6.0 Evaluation of Quality Assurance and Quality Control

The auditor has assessed the overall quality of the data by reviewing the following field investigations undertaken at Pocket Park:

- The soil investigation documented in the DSI (Ramboll 2026b). The auditor notes that while the data review can be conducted for the field data from Pocket Park, the soil samples from Pocket Park were submitted and analysed together with soil samples from other areas or stages of the former aerodrome. Hence, the laboratories' internal quality control (QC) measures were conducted together as one sample batch. Therefore, the laboratory QC data review for Pocket Park was evaluated together data from the samples from other areas external to Pocket Park.
- The groundwater assessment, as reported in the GW and SW Monitoring Report (Ramboll 2026c), is for the wider Schofield Aerodrome and it is not possible to separate the quality assurance (QA) / QC measures specific to Pocket Park. Therefore, the data review for Pocket Park was evaluated together data from the rest of the former aerodrome.
- The surface water assessment, as reported in the GW and SW Monitoring Report (Ramboll 2026c), is for sampling conducted at Eastern Creek (located off-site). The data are considered relevant to this audit, as Eastern Creek is the primary ecological receptor for the former aerodrome, including Pocket Park.

The auditor's assessment of the QAQC data is presented in **Table 6-1**.

Table 6-1: Summary of DSI

Medium	Analytical Data Obtained
DSI (Pocket Park)	
Soil (8 soil bores)	Metals (arsenic, cadmium, total chromium, copper, lead, mercury, nickel and zinc). Total recoverable hydrocarbon (TRH); benzene, toluene, ethylbenzene and xylenes (BTEX); polycyclic aromatic hydrocarbon (PAH), organochlorine pesticide (OCP), organophosphorus pesticide (OPP) and polychlorinated biphenyl (PCB), volatile organic compounds (VOC) and PFAS. Asbestos identification in soil (for 0-0.1 mbgl surface samples only).
GW and SW Monitoring Report (Former Schofields Aerodrome)	
Groundwater (15 groundwater monitoring bores sampled)	Metals (arsenic, cadmium, total chromium, copper, lead, mercury, nickel and zinc). TRH, BTEX, OCP, OPP, PAH, PCB, VOC and PFAS.
Surface water (6 sampling locations at up-stream, adjacent and down-stream to the former aerodrome)	

Assessments of the overall quality of the investigation data obtained prior to the DSI were included in the previous SARs (Environ 2013 and Senversa 2021).



The 2013 Section A SAR concluded that:

“The data is likely to be representative of the overall conditions on the site, and within the targeted investigation areas.

The data is complete.

There is a high degree of confidence that data is reasonably comparable for each sampling and analytical event, noting the long time frame and different consultants and laboratories involved.

The primary laboratories provided sufficient information to conclude that data is of sufficient precision.

Sufficient information on field and laboratory methods was provided to conclude that the data is sufficiently accurate for the purpose of this audit.”

The Remaining Site Area SAR concluded that:

“Samples were collected using suitable procedures with appropriate field quality control samples (such as rinsate and field blanks).

The results of field quality control samples were generally consistent, indicating the data is likely to be representative of the overall conditions on the audit site. Ramboll adopted the higher of the duplicate results in their assessment and interpretation of contamination.

The laboratory analysis was undertaken by NATA registered laboratories using accredited analytical methods. Primary and secondary laboratories have provided sufficient information to conclude that the dataset is generally precise.

Samples were collected using suitable procedures and met the sampling density specified in the SAQP. The data was generally considered accurate and was relied upon for this audit.”

The auditor has assessed the overall quality of the data by review of the information presented in the DSI and GW and SW Monitoring Report, supplemented by field observations. 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
Data Quality Objectives (DQOs) Ramboll (2026a) defined specific DQOs in the SAQP. The DQOs are in accordance with the seven step process outlined in EPA (2017) Guidelines for the NSW Site Auditor Scheme in Section 4 of the SAQP.	These were considered appropriate for the investigations conducted.
Sampling pattern and locations Soil and groundwater sampling were undertaken in accordance with the SAQP (Ramboll 2026a). The sampling locations at Eastern Creek were not discussed in the SAQP but were selected for direct comparison in the receptor where groundwater was potentially discharging from the former aerodrome. <u>Soil</u>: Investigation locations were spaced in a rough grid pattern to gain coverage of the majority of the audit site. <u>Groundwater</u>: Three newly installed monitoring bores and 12 existing bores were located at across Reserve 980 and the Work Land and Subdivision Stage areas. They provide coverage over the former aerodrome with bores located in near the eastern site boundary (up-gradient) and near the western boundary (down-gradient, east of Eastern Creek). <u>Surface water</u>: Six locations along Eastern Creek adjacent or close to the former aerodrome. Ramboll acknowledged that the surface water sampling along Eastern Creek were not included of the SAQP.	The number of sampling locations specified in the SAQP was met during the validation works, except for the surface water sampling at Eastern Creek. The auditor supports the adopted surface water sampling locations at Eastern Creek even though it was not documented in the SAQP. In the auditor's opinion, these investigation locations and density adequately target the main areas of concern.



Sampling and Analysis Plan and Sampling Methodology

Auditor's Opinion

Sampling density

Soil: The sampling density of 8 locations over approximately 0.57 hectares to assess the general imported fill. The sampling density was reduced because:

- The site history is considered well understood.
- VENM certificates for the imported VENM were available and reviewed to be consistent with the EPA's definition of VENM.
- The bulk excavation contractor had engaged a geotechnical consultant to provide Level 1 supervision of the back-filling and the geotechnical summary report identified the imported to be gravelly/shaley clay consistent with VENM certificates.
- Previous investigations conducted by Ramboll had observed the imported fill to be consistent with VENM material (i.e. no notable evidence of contamination).
- Historical AECs were assessed and validated in previous assessment reports and audits and there is no AEC within Pocket Park.
- This is a first-tier approach to assess Pocket Park and so if contamination was identified during this initial testing, additional investigation (i.e. targeted sampling) would have then been conducted.

Groundwater: All existing functional monitoring bores at the former aerodrome were sampled.

Surface water: Three up-stream locations, two locations adjacent to former aerodrome and one down-stream location along Eastern Creek.

Sample depths

Soil: The boreholes were advanced to maximum 4 mbgl, which deviated from the proposed SAQP requirement of 0.5 m into natural material. Ramboll indicated that this was not an issue as no unexpected subsurface conditions or indications of contamination were observed and the fill encountered were generally consistent with interpreted site geology. Therefore, deeper intrusive investigation to intersect natural soil was not considered to be required given testing was already down to 4 mbgl.

Samples were collected from the current ground surface, 0.4 to 0.5 mbgl, 0.9 to 1 mbgl and every metre thereafter and/or upon a change in lithology or signs of contamination. Two samples per borehole were analysed from varying depth with the fill at each location (or if signs of contamination were observed).

Groundwater: Three new monitoring bores were installed to depths ranging between 6.5 and 8 mbgl to assess groundwater conditions.

Surface water: Sampling was conducted from 10 to 20 cm below the surface.

This sampling strategy was appropriate and adequate to characterise the imported fill (VENM) at Pocket Park, the aquifer beneath the former aerodrome and Eastern Creek adjacent to and up-stream of the former aerodrome.

Well construction

The three new monitoring bores were installed to depths of 6.5 to 8 mbgl, with screen intervals of 3.5 to 4.5 m placed in graded filter sand. Bores were constructed of 50 mm diameter PVC class 18 pipe with 0.5 mm slotted screen fitted with an end cap. A bentonite seal of approximately 1 m thickness was placed above the screen and the well backfilled with grout slurry to the ground surface.

The well construction was acceptable.

Sample collection method

Soil: All soil bores were advanced via pushtube (geoprobe) except for S6A-BH03 which was installed using solid stem auger. Pushtube samples were collected with a sampler tube fitted with clear PVC liner. Samples from S6A-BH03 were collected from the auger.

Groundwater: The monitoring bores were installed by pushtubes, except for S6A_BH03 which was installed using solid stem auger (due to the need to minimise noise). They were developed on 27 October 2025 by removing three well volumes and left for a minimum of one week to stabilise prior to sampling. Samples were collected with low flow peristaltic pump.

Surface water: Sampling was conducted using a swing sampler.

Overall, the sample collection method was found to be acceptable.

Decontamination procedures

Ramboll indicated that sampling equipment and drilling equipment were decontaminated using PFAS-free detergent and deionised water prior to use at each location. Dedicated disposable nitrile gloves were reportedly used at each new sampling location.

This is considered to be acceptable.



Sampling and Analysis Plan and Sampling Methodology

Auditor's Opinion

Sample handling and containers

Soil, groundwater and surface water samples were placed in laboratory-supplied containers (comprised polypropylene or high-density polyethylene, HDPE). Samples were chilled in non-chemical based ice which had been double-bagged (polyethylene plastic) and secured to avoid meltwater from contacting sample containers in the EskyTM during storage and subsequent transport to the laboratory.

This is considered to be acceptable.

Chain of Custody

Chain of custody forms were provided in the assessment reports and all chain of custody was signed or initialled by Ramboll's representative.

This is considered to be acceptable.

Detailed description of field screening protocols

Soil: Field screening for volatiles was undertaken using a calibrated photoionisation detector (PID).

Groundwater: Field parameters were measured during well sampling and development.

Surface water: Field parameters measurement was conducted.

This is considered to be acceptable.

Calibration of field equipment

The reports indicated that equipment calibration had been undertaken prior to use. Calibration certificates from the equipment supplier (for PID, interface meter, water quality meter) were provided in appendices of the assessment reports.

This is considered to be acceptable.

Sampling logs

Soil logs are provided within Appendix 7 of the DSI, indicating sample depth, PID readings and lithology. Site photographs were provided in Appendix 8 of the DSI.

Logs for the new groundwater monitoring bores were provided in Appendix 3, and groundwater and surface water field sampling records were provided in Appendix 5 of the of the GW and SW Monitoring Report, indicating water levels, field parameters, methodology and observations.

This is considered to be acceptable.

Table 6-3: QA/QC – Field and Lab Quality Assurance and Quality Control

Field and Lab QA/QC

Auditor's Opinion

Field quality control samples

DSI:

The following field quality assurance/control samples were undertaken:

- 1 trip blank and 1 trip spike collected at the rate of 1 per batch of samples.
- 1 field blank collected at the rate of 1 per day of sampling.
- 3 rinsate blanks were collected and analysed for PFAS, and 1 rinsate blank was collected and analysed for non-PFAS contaminants of concern.
- 1 field intra-laboratory and 1 inter-laboratory soil duplicate (for 16 primary soil samples).

The combined duplicate sampling rate was 12.5% which was slightly below the SAQP requirements, but Ramboll noted that PFAS National Environmental Management Plan (NEMP) 3.0 (HEPA 2025) now requires one per 20 samples, so the duplicate frequent was still in line with relevant guideline.

GW and SW Monitoring Report:

The following field quality assurance/control samples were undertaken:

- 1 trip blank and 1 trip spike collected at the rate of 1 per batch of samples.
- 3 field blanks collected at the rate of 1 per day of sampling.
- 3 rinsate blanks were collected and analysed contaminants of concern.
- 2 field intra-laboratory and 2 inter-laboratory groundwater duplicates (for 15 primary groundwater samples).
- 1 field intra-laboratory and 1 inter-laboratory surface water duplicates (for 6 primary surface water samples).

The duplicate sampling rate was considered to be in line with the SAQP and PFAS NEMP 3.0.

Overall, the auditor considers that the field quality control samples were adequate for the investigation.



Field and Lab QA/QC

Auditor's Opinion

Field quality control results

DSI:

The results of field quality control samples were generally within appropriate limits.

One rinsate sample QC306_091225 which recorded TRH C10-C16 minus naphthalene, TRH >C10-C16 and TRH >C16-C34 at the limit of reporting. Ramboll noted that TRH was not detected in the soil at Pocket Park and therefore, the detected concentrations for the rinsate sample are not considered to impact the interpretation of the results.

GW and SW Monitoring Report:

The results of field quality control samples were generally within appropriate limits. The following exceptions were noted:

- Elevated relative percent difference (RPDs) for one intra-laboratory duplicate sample for PFHxA (35%) and PFHxS + PFOS (62%).
- RPDS for inter-laboratory duplicate samples for PFAS compounds ranged from 35% to 153%

Ramboll indicated the RPD non-conformances were generally within the same order of magnitude and are not significantly affect the results as all primary and duplicate results were used in the assessment of risks.

All concentrations of rinsate, trip and field blanks were below the laboratory detection limit, except for the following rinsate samples:

- QC300_281025 with chrome and zinc detections.
- QC300_031125 with nickel detection.

Ramboll acknowledged while the rinsate results could potentially be due to cross-contamination, the minor detections were not considered to *"comprise the integrity of the investigation or influence the assessment outcomes"* (page 29).

In relation to the results from rinsate blanks, the auditor concurs with Ramboll that they could be the result poor field practice resulting in cross-contamination. However, as elevated metals concentrations were previously identified and confirmed in groundwater and surface water in historic dataset and in the 2013 Section A SAR, the overall findings and interpretation of the GW and SW Monitoring Report have not changed.

The auditor notes that the highest results had been adopted in assessing the site. Therefore, overall, the field quality control results are not considered to affect the audit conclusions.

NATA registered laboratory and NATA endorsed methods

Laboratories used included:

- Eurofins (primary)
- Envirolab and ALS (secondary).

Laboratory certificates were NATA stamped with the exception of asbestos concentrations analysis (refer below).

This is considered to be acceptable.

Analytical methods

Analytical methods were included in the laboratory test certificates. Both Eurofins and Envirolab provided brief method summaries of in-house NATA accredited methods used.

The asbestos fibre identification was conducted in accordance with Australian Standard AS 5370:2024 instead.

This is considered to be acceptable.

Holding times

Review of the COCs and laboratory certificates indicate that the holding times had been met. Ramboll also reported that holding times were met.

This is considered to be acceptable.

Practical Quantitation Limits (PQLs)

Soil: PQLs were less than the threshold criteria for the contaminants of concern.

Asbestos: The limit of detection for asbestos in soil was 0.01% weight/weight (w/w).

Groundwater and Surface Water: A small number of adopted PQLs (such mercury, selected OCP, OPP, PAH and PCB species) were greater than the adopted freshwater ecological guideline values and only PQL of vinyl chloride and bromomethane (for one inter-laboratory surface water duplicate sample) were greater than the recreational guideline criterion.

The elevated groundwater and surface water PQLs were not ideal but a review of the overall dataset (such as data from the 2013 Section A SAR) does not suggest mercury, OCP, OPP, PAH and PCB contamination to be present as all current and historical results were non-detects (including compounds with PQLs less than the guideline values). Therefore, these discrepancies are not considered to affect the outcome of the audit.

Laboratory quality control samples

Laboratory quality control samples including laboratory control samples, matrix spikes, surrogate spikes, blanks, internal standards and duplicates were undertaken by the laboratory at the appropriate frequencies.

This is considered to be acceptable.



Field and Lab QA/QC

Auditor's Opinion

Laboratory quality control results

DSI:

The results of laboratory quality control samples were generally within appropriate limits, with the following exceptions:

- Two spike recoveries had failed, and the laboratory indicated that this was due to sample matrix interference.
- RPDs for laboratory duplicates were marked as 'fail' but Eurofins documented that they did meet Eurofin's Environmental Testing Quality Control Acceptance, hence they were considered acceptable.

GW and SW Monitoring Report:

The results of laboratory quality control samples were generally within appropriate limits, with the following exceptions:

- Four matrix spike recoveries were outside of the recommended acceptable limits. The laboratory indicated that this was due to sample matrix interference.
- Detections were recorded in two method blanks.

Ramboll reported that in these non-conformances were "*minimal and do not significantly impact the reliability of the laboratory results*" (page 30).

In the context of the dataset reported and the number of samples analysed, the number of non-conformances was considered a small minority, as majority of the quality control results were within the acceptable range. The auditor concurs with Ramboll that overall, these minor non-conformances are not considered to be significant, and they are not material to the conclusions of the audit.

Data Quality Indicators (DQI) and Data Evaluation (completeness, comparability, representativeness, precision, accuracy)

Predetermined data quality indicators (DQIs) were set for laboratory analyses including blanks, replicates, duplicates, laboratory control samples, matrix spikes, surrogate spikes and internal standards. These were discussed with regard to the five category areas in Section 8.2 of the DSI and Section 7.2 of the GW and SW Monitoring Report.

Ramboll considered that

An assessment of the data quality with respect to the five category areas has been undertaken by the auditor and is summarised below.

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

- The field quality control measures (including intra-laboratory and inter-laboratory duplicates; rinsate blanks; trip blanks; trip spikes; and field blanks) adopted in the DSI, and the GW and SW Monitoring Report are considered sufficient. While improvement could be made with regard to the decontamination measures during the groundwater and surface water field program reported in the GW and SW Monitoring Report, overall, the findings and conclusions of this report have not been affected by non-conformances.
- Ramboll conservatively adopted the highest concentration (from the primary, intra-laboratory and inter-laboratory duplicates) in their assessment and interpretation of contamination.
- The recent 2025 dataset reported similar concentrations and sampling procedures to the historical dataset.
- The results of field quality control samples were generally consistent, indicating the data is likely to be representative of the overall conditions on the audit site.
- The laboratory analysis was undertaken by NATA registered laboratories using accredited analytical methods. Primary and secondary laboratories have provided sufficient information to conclude that the dataset is generally precise.
- Overall, the data set is considered to be representative of the general site conditions and can be relied upon for the purpose of this audit.



7.0 Environmental Quality Criteria

The auditor has assessed the results against Tier 1 criteria from National Environmental Protection Council (NEPC) National Environmental Protection (Assessment of Site Contamination) Measure 1999, as Amended 2013 (NEPM, 2013). Other guidance has been adopted where NEPM (2013) is not applicable or criteria are not provided.

Based on the proposed development of recreational land use, the criteria for 'public open space' have been referred to for Pocket Park.

The auditor has assessed the **soil** data provided with reference to Tier 1 (screening) criteria from the following:

- Human Health Assessment
 - Health-based Investigation Levels (HIL C).
 - Soil Health Screening Levels (HSL C) for vapour intrusion. The most conservative criteria were adopted i.e. assumed depth to source <1 m and sand.
 - CRC CARE (2011) Direct Contact (HSL C and intrusive maintenance worker).
 - Asbestos Health Screening Levels (HSL C).
 - The HIL C for PFAS provided in PFAS NEMP Version 3.0.
- Ecological Assessment
 - Ecological Screening Levels (ESL) for urban residential and public open space assuming coarse soil.
 - Ecological investigation level (EIL) for urban residential and public open space. An EIL is calculated based on the Ambient Background Concentration (ABC) plus the Added Contaminant Limit (ACL).
 - Site-specific soil property data from the Reserve 980, located approximately 120 to 200 m southwest of Pocket Park, has been used to calculate EILs for chromium III, copper, nickel and zinc were derived for soil contamination based on the following assumptions:
 - ABC were assumed to be those for aged soils in regions with low traffic.
 - Site specific ACLs have been calculated based on the measured values of cation exchange capacity of 8.4 meq/100g, 7.5% clay content, 0.94% total organic carbon and 6.9 pH units. The NEPM Toolbox spreadsheets are provided in Appendix 4 of the DSI. The DSI indicated that soil data from Reserve 980 is valid as the material placed at Reserve 980 are representative of the material imported at Pocket Park in the Work Land and Subdivision Stage areas as the material was imported during the same bulk earthworks. The auditor concurs with this interpretation.
 - For PFAS the interim soil ecological criteria for direct exposure and indirect exposure provided in PFAS NEMP 3.0.
- Management Limits for residential, parkland and public open space assuming coarse soil.
- Aesthetics
 - The auditor has considered the need for remediation based on the 'aesthetic' contamination as outlined in the NEPM (2013).



The auditor has assessed the **groundwater** data provided with reference to Tier 1 (screening) criteria from the following:

- Human Health Assessment.
 - NEPM (2013) groundwater Health Screening Levels (HSL C) for vapour intrusion.
 - NHMRC and NRMCC (2011) Australian Drinking Water Guidelines (ADWG). As groundwater is not used for drinking water, the health-based values in the ADWG have been amended by a factor of 10 (non-volatiles only) in accordance with NEPM (2013) and GMRRW (NHMRC 2008)¹. The amendment assumes the exposure during recreational activity (e.g. swimming) would be equivalent to 10% of drinking water consumption. This is considered suitable for non-potable uses including incidental exposure to groundwater. For volatiles the ADWG have not been adjusted.
 - Recreational guidance values as provided in the PFAS NEMP 3.0.
- Ecological Assessment
 - The Default Guideline Values (DGV) in ANZG (2018)². The DGV are concentrations of toxicants that should have no significant adverse effects on the aquatic ecosystem. In line with guidance from Australian and New Zealand Guidelines for Fresh and Marine Water Quality framework and Section 9.3.2 of PFAS NEMP 3.0, due to bioaccumulation and biomagnification nature of selected contaminants (such as PFAS), the next higher level of protection was adopted (i.e. 99% instead of 95%).
 - Freshwater ecological quality guideline values from PFAS NEMP 3.0 for PFOA.

Imported fill has been assessed in relation to attributes expected of VENM. The NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying Waste classifies VENM as “...*natural material (such as clay, gravel, sand, soil or rock fines)*”:

- *‘that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities*
- *‘that does not contain sulphidic ores or soils, or any other waste, and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice in the NSW Government Gazette.’*

On this basis, the Auditor considers that for soil to be classified as VENM, the following criteria generally apply:

- Organic compounds (including petroleum hydrocarbons, PAHs, OCPs, PCBs) should be less than the PQLs.
- Inorganic compounds should be consistent with background concentrations.

¹ National Health and Medical Research Council (NHMRC) (2008) ‘Guidelines for Managing Risks in Recreational Water’ (GMRRW). GMRRW (NHMRC 2008)

² Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018 (and rolling revisions). Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. (Available at www.waterquality.gov.au/anz-guidelines)



7.1 Consultants Environmental Quality Criteria

The environmental quality criteria referenced by the auditor are consistent with those adopted by Ramboll with the exception of the following:

- Ramboll adopted the following guidelines for assessing acid sulfate soil.
 - Acid Sulfate Soil Manual (NSW Acid Sulfate Soil Management Advisory Committee 1998).
 - National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Identification and Laboratory Methods Manual (Water Quality Australia 2018).However, as the review of imported VENM documentation, site history and environmental setting of Pocket Park has not indicated any potential for acid sulfate soil to be present, assessment of acid sulfate soil was not considered to be required.
- Ramboll refers to NHMRC (2019) Guidance on Per and Polyfluoroalkyl substances (PFAS) in Recreational Water for guideline values for recreational water. This is not an issue as PFAS NEMP 3.0 adopts NHMRC 2019 recreational water values.

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



8.0 Evaluation of Soil Analytical Results

Prior to the bulk importation of fill to raise the ground level of the Nirimba Fields housing estate and the removal of the surface hard stand (such as asphalt pavement, concrete slabs), the former Schofields Aerodrome (surface and subsurface) was assessed as part of the Section A site audit. The 2013 Section A SAR concluded that:

“In the Auditor’s opinion, the sampling over the rest of the site has confirmed the historical information and no further assessment is warranted. It is possible that there are areas of waste burial, surface spills or other contaminating activity, but based on the site history and investigations conducted they would not be expected to be extensive. An unexpected finds protocol has been developed as discussed in Section 13 [of the Section A SAR]. It is appended as Appendix D [of the Section A SAR].”

Later in 2021, the Remaining Site Area SAR validated the audit site in relation to PFAS contamination. The Remaining Area SAR stated:

“The validation evaluated the overall audit site including specific AECs [areas of environmental concern] and the remaining surface and sub-surface soil. The results for PFAS are consistent with the expectations for a low density residential and/or public open space development.”

In addition to the audits completed to date, Ramboll (2026b) conducted a soil investigation in 2025 at Pocket Park. As discussed in **Table 3-1**, the soil sampling was conducted at eight locations in a rough grid-pattern covering Pocket Park. Soil sampling locations are shown as Attachment 3, **Appendix A**.

The analytical results have been assessed against the environmental quality criteria, and all of the concentrations are below the adopted human health and ecological guideline values for recreational land use. Majority of the results (such as BTEX, TRH, PAH, PCB, OCP, OPP and VOC) were below the laboratory’s detection limits.

The DSI documented that no staining, odours, anthropogenic waste (such as bricks, concrete, glass, plastics or demolition-derived materials) or potential asbestos-containing material (ACM) was observed during the site inspection or intrusive field program, either at the surface or within the fill profile. Furthermore, no asbestos was detected at the reporting limit of 0.001% w/w for all eight surface samples analysed. Field PID readings of 0.1 to 0.3 ppm were measured which is consistent with low or below detection organic concentrations recorded. The DSI concluded that the landscaping material was considered suitable for the proposed land use.

The VENM certificates or reports for the material imported into Pocket Park were presented in Appendix 6 of the DSI. In total, 37 VENM certificates or reports were attached, and the source sites and the material assessed are summarised in **Table 8-1**. The source sites were not located in areas of acid sulfate soils. No staining or odour, and no foreign material or asbestos was reported to be observed.

The auditor notes that two of the reports provided in Appendix 6 of the DSI are geotechnical reports and while they do not contain chemical soil data, they provided descriptions of the natural material assessed and these descriptions are consistent with expectations for VENM.

**Table 8-1: Summary of VENM Certificates**

Source site	Description
51-53 Old Castle Hill Road, Castle Hill (Geotechnical report)	Clay, sandy clay, clayey gravel
160 Hawkesbury Road, Westmead	Silty Clay, silty sandy, clay, shaly clay, gravelly silty sand.
Building C, 45-61 Waterloo Road, Macquarie Park	Silty clay, medium clay, heavy clay
15 Bigge Street, Liverpool	Silty clay overlying grey shale bedrock
17-25 Bigge Street, Liverpool	Highly weathered shale overlying shale bedrock
68-70 Horsley Drive, Carramar (dated May 2018)	Shale and clay (weathered shale material)
68-70 The Horsley Drive, Carramar (dated April 2018)	Silty clay (overlying grey shale bedrock)
194-204 Parramatta Road, Croydon	Silty clay
2 Pendle Way, Pendle Hill	Clay overlying shale bedrock
503-507 Great Western Highway, Greystanes	Clayey sand
3-5 Robilliard Street, May Hills	Silty clay (weathered shale)
68 Stanley Street, Burwood	Silty clay overlying shale bedrock
339 Mowbray Road, Chatswood (Sydney Metro City and Southwest – Tunnel and station excavation works package)	Clay with ferruginous nodules
23-27 Schofields Road, Schofields	Clay and shale bedrock
Martin Place Station Site, 20-26 O'Connell Street, Sydney	Medium and coarse-grained sandstone
16 Railway Parade, Burwood	Silty clay and weathered shale
21-41 East Street, 14-38 Cowper Street and 5-5A Rowell Street, Granville	Silty clay and underlying shale bedrock
25 Baker Road, Strathfield	Clay
Lots A, B, C & D, 279 Railway Terrace, Schofields (Geotechnical report)	Silty clay, shaley clay, shale bedrock
7-9 Acton Street, Croydon	Weathered shale material
1 Alexandar Avenue, Croydon	Sandy clay
Pacific Highway, Crows Nest (Sydney Metro City and Southwest – Tunnel and station excavation works package)	Clay, underlying grey siltstone
136 Tallawong Road, Rouse Hill	Silty and sandy clay, transition into shaley clays.
7-11 Glen Street, Eastwood	Silty clay, weathered shale



Source site	Description
105-107 Church Street, Ryde	Silty clay with some gravel (residual)
2b Hector Court, Kellyville	Clay and weathered shale bedrock
Campbelltown Road Upgrade, Bardia	Clayey silt, silty clay, extremely weather siltstone/shale
1-11 Olive Street, Seven Hills	Grey shale/clay
12-18 Dunn Road, Smeaton Grange	Clay with shale at depth
59 Cudgegong Road, Rouse Hill	Clay/shale
44 and 56 Cudgegong Road, Rouse Hill	Silty clay and clayey silt
848 Windsor Road, Rouse Hill	Silty clay, shaly clay, then shale bedrock
95 Nicholson Street, 500/504 Pacific Highway and Friedlander Place, St Leonards	Dark grey siltstone and shale with clay
659-661 Victoria Road and 4-6 Wharf Road, Melrose Park	Clay and weathered shale
18-20 Cliff Road, Epping	Silty sandy clay
Gerbera Place and Balmoral Road, Kellyville	Silty clay overlying shale bedrock
2-8 Pymble Avenue, Pymble	Silty clay and shale bedrock

Overall, the stratigraphy and the analytical results from the DSI are consistent with the imported material being VENM in line with the historical VENM certificates and reports. Furthermore, the VENM material that was imported was placed under an independent Geotechnical Inspection and Testing Authority (GITA) Level 1 supervision and testing program (refer to Appendix 6 of the DSI) and therefore, if there were any indications of contamination (such as inclusion of waste, organic matter, staining or deleterious odour), it would also be identified during the filling and compaction process. In the auditor's opinion, the soil analytical results do not indicate contamination present and the site criteria for recreational land use have been met.



9.0 Evaluation of Groundwater Analytical Results

The groundwater condition was evaluated in the 2013 Section A SAR and this SAR concluded that:

“Overall, the results do not indicate that impact to groundwater has occurred at the site due to contamination in soils, except possibly for metals and TPH [Total Petroleum Hydrocarbon] detected at former landfill sites³. The landfills have since been remediated. In the GHD (2002) validation report, the Consultant concluded that the groundwater quality was generally good. Groundwater should be assessed for suitability for its proposed use if groundwater abstraction is contemplated in future.

In the Auditor’s opinion, in so far as it relates to potential contamination sources on the site, groundwater has been adequately characterised. There has been no monitoring since 1999, but also no additional sources of groundwater contamination.”

In summary, the 2013 Section A SAR concluded that groundwater did not pose a risk for the proposed sensitive residential use with accessible soil, which is more conservative than recreational public open space proposed at Pocket Park.

Since then, groundwater investigations assessing PFAS were conducted in 2021 because PFAS contamination was not evaluated as part of the 2013 Section A audit.

The Remaining Area SAR evaluated the groundwater PFAS concentrations and concluded that:

“In the auditor’s opinion, the groundwater at the site did not indicate elevated concentrations above the ecological and human health criteria. The PFAS levels observed at the site are likely to reflect ‘background’ concentrations migrating onto the site from the east. These groundwater results are consistent with those obtained for the soil i.e., low PFAS levels.”

In addition to the audits completed to date, Ramboll conducted groundwater sampling events in 2024 and 2025 at the wider Work Land and Subdivision Stage areas, including the newly installed monitoring bore MW16 located at Pocket Park.

Table 10-1, prepared by the auditor, is a summary of the groundwater sampling undertaken at and near Pocket Park. MW16 was installed in late 2025 and its location is shown in Attachment 3 and 6, **Appendix A**. As discussed in **Table 3-1**, the previous groundwater monitoring bore MW01 has been destroyed. Therefore, the auditor reviewed the nearest groundwater monitoring bores to Pocket Park for a holistic assessment of nature and extent of contamination at Pocket Park and the wider Work Land and Subdivision Stage areas.

³ The former landfill sites are not located on-site and therefore, they are not relevant to this audit.

**Table 9-1: Groundwater Monitoring Bores at Pocket Park and Nearby Areas**

Bore ID	Installation Date	Total Depth (mbgl)	Screen (mbgl)	Sample Date(s)
Pocket Park				
MW16	27 October 2025	6.5	3 to 6.5	3 November 2025
Off-site in wider Work Land and Subdivision Stage areas				
R980_MW03 (approximately 260 m south-southwest of MW16)	11 April 2025	6.5	3.5 to 6.5	1 May 2025 and 3 November 2025
MW03 (approximately 310 m northwest of MW16)	1 July 2021	4	1.5 to 4	9 July 2021 (analysed for PFAS only), 12 July 2024 and 4 November 2025
MW05 (approximately 360 m southwest of MW16)	1 July 2021	6.5	3.5 to 6.5	8 July 2021 (analysed for PFAS only), 11 July 2024, 1 May 2025 and 3 November 2025

Note:

Data sourced from Appendix E of Ramboll 2021 and Appendix 3 of Ramboll 2026c.

The following is a summary of groundwater concentrations recorded at MW16 in November 2025 sampling event:

- All results were below human health criteria with majority of the concentrations recorded as non-detects.
- All results were below the ecological default guideline value for freshwater for 95% and 99% species protection.
- 0.0063 µg/L PFOS was above the ANZG biota screening threshold of 0.0005 µg/L in freshwater.

The nearby off-site bores, located at Reserve 980, also measured PFOS concentrations at or above the ANZG biota screening threshold:

- R980_MW03 (0.0005 µg/L).
- MW05 (0.0006 µg/L).

The elevated PFOS level at Pocket Park was consistent with the results from the wider Work Land and Subdivision Stage areas (as reported in the GW and SW Monitoring Report) where more than half the groundwater sampling locations including those at the up-gradient eastern boundary, reported concentrations above the ANZG biota screening threshold.

In line with the ANZG guideline, Ramboll (2026c) conducted a qualitative weight-of-evidence assessment to evaluate whether *“PFAS present in site groundwater could make a measurable contribution to dietary exposure pathways for higher-order, air-breathing predators utilising Eastern Creek”* (page 34). Ramboll indicated that:

- The ANZG biota screening threshold is used for receiving waters and is considered conservative when applied to groundwater concentrations.
- The concentrations measured in groundwater beneath the site is likely to attenuate (due to sorption, dispersion and dilution) prior to discharging at Eastern Creek. Furthermore, Eastern Creek may be acting as a ‘losing stream’, noting that further assessment on understanding groundwater-surface water connectivity is proposed for the wider Work Land and Subdivision Stage areas.
- The PFOS concentrations measured at groundwater at the Work Land and Subdivision Stage areas would not be reflective of the concentrations measured at Eastern Creek. In fact, the PFOS concentrations measured in groundwater were generally lower than the concentrations measured at Eastern Creek. This indicates that elevated concentrations in the groundwater have not resulted in *“a proportional increase in exposure concentrations within Eastern Creek downgradient of site”*.



- The concentrations measured at MW16 located at Pocket Park (and in MW11 and MW15) were likely to reflect regional or ambient background level or an up-gradient diffuse source of PFAS observed in the aquifer.
- PFOS concentrations measured upstream in Eastern Creek were similar to, or higher than, those measured adjacent to or downstream of the former aerodrome. This indicates that PFOS concentrations in Eastern Creek were likely representative of regional or background conditions, with groundwater contributions from the Work Land and Subdivision Stage areas considered negligible.
- Higher-order predators (such as birds) have a broad foraging range and are unlikely to be restricted to discrete sections of Eastern Creek. Therefore, any PFAS contribution from the site groundwater is considered to constitute a minor component of the overall food consumed by these animals. As a result, site-derived PFAS is unlikely to make a meaningful contribution to bioaccumulation or biomagnification in higher trophic levels.

In summary, Ramboll concluded that PFAS detected in groundwater at the site is “*unlikely to materially contribute to dietary exposure*”. Accordingly, the observed biota screening threshold exceedances do not indicate an unacceptable ecological risk.

Summary

In the auditor’s opinion, the groundwater at Pocket Park (which was assessed together with other off-site Work Land and Subdivision Stage areas) was considered not to pose a risk to human health as all measured concentrations were below the adopted criteria for assessing human health. Groundwater at Pocket Park is not accessed by current and future site users as there is no groundwater extraction bores on-site. Furthermore, there is reticulated town-water available as part of the new residential estate development.

No groundwater concentrations exceeding the ecological default guideline values (for 99% and 95% species protection) was recorded at Pocket Park. While PFOS concentrations in groundwater above the ANZG biota screening threshold were reported at Pocket Park (and across the former aerodrome), the auditor concurs with Ramboll that the PFOS level observed at Pocket Park was unlikely to pose a potential risk for PFAS biomagnification in the food chain at Eastern Creek (i.e. point of discharge). Due to the diffusion and dilution with distance and physical attenuation in the clay, the PFOS concentration detected at MW16 (Pocket Park) is like to reduce prior to reaching Eastern Creek, which is located more than 500 m to the west.

The auditor concurs with the DSI, which stated “*based on the MW16 results and the broader site-wide groundwater assessment indicating low and acceptable risks, ground impacts at Pocket Park are not considered to preclude the proposed RE1 public recreation land use.*” (page 31, Ramboll 2026b).



10.0 Evaluation of Conceptual Site Model

A conceptual site model (CSM) is a representation of the source, pathway and receptor linkages at a site. Ramboll has initially developed preliminary CSMs in the DSI (Ramboll 2026b) and the GW and SW Monitoring Report (Ramboll 2026c) and updated them with the sampling results from the DSI and the GW and SW Monitoring Report. It is noted that the CSM in the GW and SW Monitoring Report is for the groundwater and surface water medium and covers the wider Work Land and Subdivision Stage areas (which includes Pocket Park).

Table 10-1 provides the auditor's review of the refined CSM for Pocket Park presented in the DSI and the GW and SW Monitoring Report.

Table 10-1: Review of the Conceptual Site Model

Element of CSM	Consultant	Auditor Opinion
Contaminant source and contaminants of concern	- Imported fill material (VENM). - Historical aerodrome operations and remediation. - Construction works/bulk earthworks conducted on-site.	The auditor considers that the sources of contamination and associated contaminants of concern have been adequately identified for the audit site. The results from previous investigations and audits were evaluated as part of the CSM.
Affected media	- Soil. - Groundwater. - Surface water – the DSI noted that there is no surface water body located within Pocket Park, but excess surface runoff via overland flow was considered. - Sediment – the DSI noted that sediment is not present at Pocket Park.	The potentially affected media have been adequately identified and investigated.
Exposure pathways	- Incidental ingestion and dermal contact. - Inhalation of dust and/or vapours. - Surface water run-off. - Leaching of contaminants and vertical migration in groundwater. - Uptake by terrestrial ecology. - Lateral migration from the site towards Eastern Creek – this is listed in the GW and SW Monitoring Report but not in the DSI.	The exposure pathways have been identified in the CSM. It is noted that the migration of groundwater to surface water body (Eastern Creek) as a pathway is not listed in the DSI's CSM, but has been considered in the DSI's CSM. This minor omission is not considered to affect the outcome of this audit.
Presence of preferential pathways for contaminant movement	The CSM did not identify any preferential pathways for contaminant movement. Specifically, the potential beneficial re-use pathway for groundwater is considered incomplete as groundwater at the site is not extracted for any use.	The auditor considers that the preferential pathways have been adequately evaluated.
Receptor identification	- Future site users (recreational). - Current and future construction and maintenance workers. - Adjacent site users. - On-site ecology. - Off-site ecology.	The auditor considers that the relevant human and ecological receptors have been identified.



11.0 Assessment of Risk

Where relevant for the site, the 2013 Section A SAR concluded that:

“Over the vast majority of the site, there is no significant contamination that would present a risk to human health or the environment.

The site is very large, and there is a risk that there could be undetected contamination, for example by undocumented waste burial or surface dumping or spills. As the documented site history was found to be generally reliable in locating areas of potential contamination such as the landfills, the risk of major undetected contamination is considered to be low. This risk is to be managed by an unexpected finds protocol (Section 13) [of the Section A SAR].

There is a risk of unexpected finds of ordnance related material. This could include small arms ammunition (SAA), explosive ordnance waste (EOW), unexploded ordnance (UXO). A very small amount of practice ordnance only has been found buried on the site. Practice ordnance does not pose a threat. There is a very low risk that UXO will be found on the site. This risk is to be managed by an unexpected finds protocol (Section 13) [of the Section A SAR].”

The Remaining Site Area SAR concluded:

“Validation of all remaining areas of concern confirmed low concentrations such that the risk to human health and the environment is considered to be low and acceptable. As the extent of PFAS soil impact identified at the audit site is very limited, the potential for leachate contamination to impact groundwater is considered to be negligible and also unlikely to pose a risk to aquatic ecosystem. The auditor acknowledges that groundwater is unlikely to be extracted for use at the site due to the high salinity and low yield of the aquifer.”

Based on the results reported in the DSI and the GW and SW Monitoring Report, the imported material (VENM) and groundwater beneath Pocket Park are not considered to present a risk to human or ecological receptors.

Low levels of PFOS concentrations detected in the groundwater were likely to be regional or ambient levels associated with the aquifer/stratigraphy as similar concentrations were measured at previous groundwater monitoring events conducted within the former Schofields Aerodrome.

Overall, the results from the current assessment support the conclusions of the previous audits in that the potential risk to human health and the environment are considered to be low and acceptable.



12.0 Contamination Migration Potential

The 2013 Section A SAR reviewed the surface water and sediment data and concluded for the former aerodrome that *“there is a low risk of migration of contaminants under the current site conditions from the surface soil in dust or surface water runoff, as the major sources of contamination have not been removed.”* This SAR also examined the potential risk associated with off-site migration of contaminants in groundwater due to landfill areas (which are located external or down-hydraulic gradient of Pocket Park) and noted that the landfill areas *“have been remediated and do not pose a future risk of offsite migration”*.

Similarly, the Remaining Site Area SAR evaluated the potential for PFAS to migrate and concluded that *“there is still no evidence of significant migration of contamination and little potential for future migration.”*

No significant levels of contaminants were detected at Pocket Park, and therefore there is little or no potential for migration of contamination from the site or vertically to groundwater. Potential transport pathways via dust and surface erosion were not considered to be an issue as no elevated results were measured at the surface or shallow soil (imported VENM). Furthermore, the surface of Pocket Park is now covered with either grass, hardstand, footpath or landscaped garden beds with no accessible soil.

Consistent with the previous SAR, the auditor still considers that there is no evidence of significant migration of contamination and little potential for future migration at Pocket Park.



13.0 Compliance with Regulatory Guidelines and Directions

The auditor has used guidelines currently approved by the EPA under Section 105 of the NSW *Contaminated Land Management Act 1997* (**Appendix B**).

The DSI was generally conducted in accordance with *State Environmental Planning Policy (Resilience and Hazards) 2021* and reported in accordance with the NSW EPA (2020) *Consultants Reporting on Contaminated Sites Contaminated Land Guidelines*.

13.1 Notification

Ramboll did not indicate in the DSI whether the assessment work required any consent from regulatory authorities and the auditor notes that notification is not required for environmental investigation. The auditor has not been provided further detail on any associated notification to Council in relation to the works undertaken.

13.2 Development Approvals

As discussed in **Section 1.1**, the two Blacktown City Council development consents (DA-20-02031 and DA-19-01497) do not include any conditions requiring a site audit to be completed. This site audit is voluntary and is undertaken to comply with a requirement of a Work In Kind Agreement between DHA and Blacktown City Council.

13.3 Waste Disposal

The DSI did not document that waste was disposed from the site.

13.4 VENM and Other Imported Materials

The assessment conducted as part for the DSI tested the historical fill previously imported to the wider former Schofields Aerodrome (including Pocket Park) to raise the site level. Reports from the source sites confirming that the imported fill soil was VENM are provided in Appendix 6 of the DSI. Overall, based on the findings of the DSI, the historical fill imported is consistent with VENM.

13.5 Licence

The DSI report did not indicate that licences were required for assessment works associated with the audit site.



14.0 Conclusions and Recommendations

The 2013 Section A SAR concluded that:

“...the site [former Schofield Aerodrome, which includes Pocket Park] is suitable for residential use with accessible soil, as well as other similarly or less sensitive land uses, such as schools and recreational open space.

No significant contamination has been found in groundwater, but it has not been monitored since 1999. It is recommended that groundwater be assessed for suitability for its proposed use if groundwater abstraction is contemplated.”

The 2013 audit also recommended that the unexpected finds protocol be implemented in future site redevelopment to manage any undetected contamination.

In terms of PFAS contamination, the Remaining Area SAR concluded the following in relation to PFAS contamination:

“The nature and extent of the PFAS contamination has been appropriately determined.

The risk to human health and the environment posed by the soil and groundwater are considered to be acceptable for the proposed land use. Extraction of groundwater for any purpose within the audit site was documented in the Validation Report to be not proposed or not likely due to the high salinity and poor yield from clayey aquifer.”

Subsequent soil and groundwater investigations were conducted and based on the results, Ramboll considers that Pocket Park (or Stage 6A) is “suitable for its proposed future land uses of:

- *RE1 – public recreation.*

As risks to human and ecological health have been assessed as low and acceptable within the areas that were subject to this investigation, ongoing site management is not considered necessary.”

In line with the objective of this site audit and taking into consideration the conclusions of the previous site audits conducted at Pocket Park (or Stage 6A) and the environmental data presented in the DSI, the GW and SW Monitoring Report, and observations made on-site, the auditor concludes that Pocket Park is suitable for a park or recreational open space.



15.0 Other Relevant Information

This audit was conducted on the behalf of Defence Housing Australia (the Client) for the purpose of assessing whether the land is suitable for the proposed recreational public open space and roadway land uses i.e. a "Site Audit" as defined in Section 4 (definition of a 'site audit' (b)(iii)) of the *Contaminated Land Management Act 1997*. The audit report has been prepared to satisfy a requirement for the redevelopment the site as per Blacktown City Council's development consent.

This summary report may not be suitable for other uses. Ramboll Australia Pty Ltd included limitations in their report. The audit must also be subject to those limitations. The auditor has prepared this document in good faith but cannot certify information beyond areas they had some control or could reasonably verify.

In drawing conclusions, the auditor used reasonable care to avoid reliance upon data and information that may be inaccurate, however a degree of uncertainty is inherent in all subsurface investigations and there remains the possibility that variations may occur between sample locations. The audit and this report are limited by and rely upon the scope of the review, and the information provided by the Client and their consultants and representatives through documents provided to the auditor. The audit is based on a review of the subsurface condition of the site at the time of assessment, as described in the assessment reports attached to the audit report and site inspections conducted by the auditor and their representatives. The auditor's conclusions presented in this report are therefore based on the information made available to them and arising from their own observations conducted during the audit. If the auditor is unable to rely on any of those documents, the conclusions of the audit could change.

It is not possible in a Site Audit Report to present all data which could be of interest to all readers of this report. 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.

In reaching their conclusions about the site, the Client and NSW EPA may use this audit report and site audit statement. The scope of work performed as part of the audit process may not be appropriate to satisfy the needs of any other person. Any other person's use of, or reliance on, the audit document and report, or the findings, conclusions, recommendations or any other material presented or made available to them, is at that person's sole risk.



Appendix A: Attachments

Attachment 1: Area Locations and Layouts

Attachment 2: Pocket Park Previous Sampling

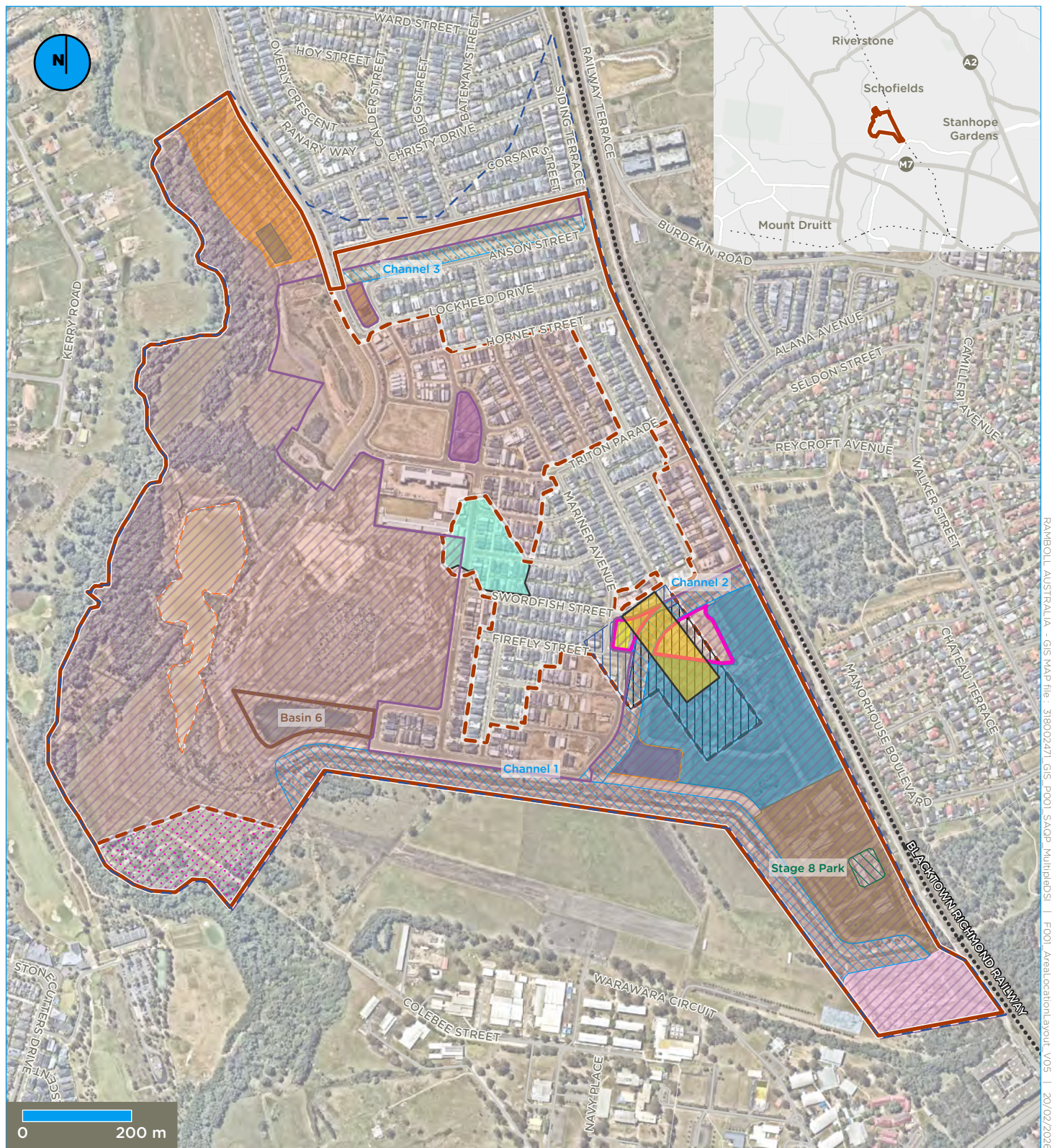
Attachment 3: Pocket Park (Stage 6A) Sample Locations

Attachment 4: Overall Cut fill Plan

Attachment 5: Eastern Creek Surface Locations and PFOS Concentrations

Attachment 6: Groundwater Locations and PFOS Concentrations

Attachment 7: Survey Plan of Pocket Park



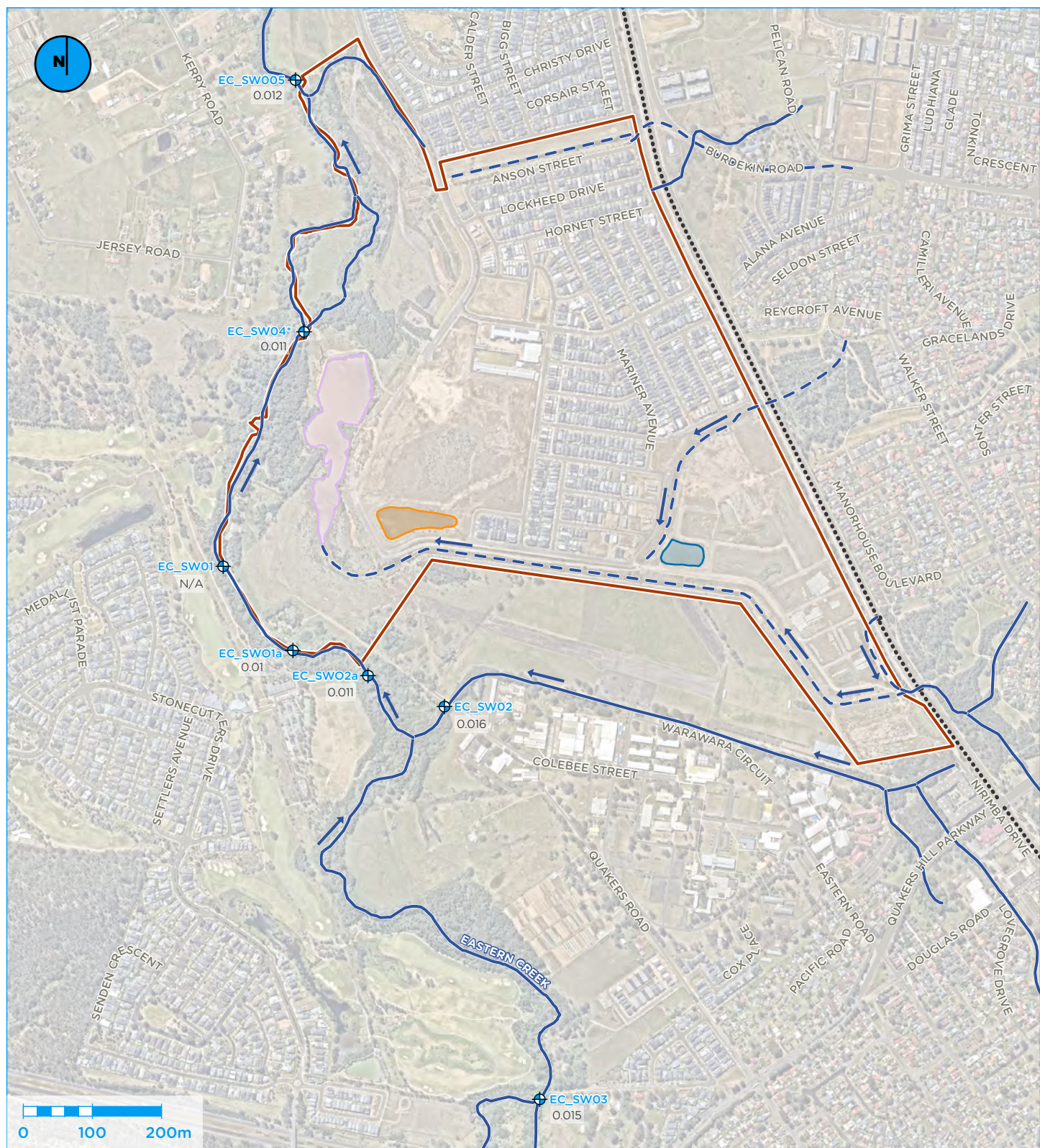
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community and aerial photography by Nearmap, flown 11/10/2025

Legend

- Approximate site boundary
- Residual land boundary
- Approximate location of FFTA
- Combined Stage 7 (Stage 7A and 7B subdivision) (9.52 ha)
- Stage 7C (0.68 ha)
- Combined Stage 8 (Stage 8A and 8B subdivision) (5.59 ha)
- Pocket Park (Stage 6A) (0.57 ha)
- Site office area / storage during development works
- Central Park (Stages 4C lot 4235 and 7A lot 7104) (1.38 ha)
- Stage 10 (3.68 ha)
- Stage 6H2 subdivision (sale office site) (0.25 ha)
- Stage 9 subdivision (2.5 ha)
- Channel 1 Extension
- Storage of material during development works
- Site features (Colliers 2019)
- Basin
- Channel
- Park
- Previous SAR/SAS Audit Areas
- Site Audit (Environ, 2013)
- Remainder of site SAR/SAS site boundary (Ramboll, 2021)
- PFAS material emplacement area (MEA) SAR/SAS site boundary (Ramboll, 2021)
- North of Swale "No Scrape" Area SAR/SAS site boundary (Ramboll, 2021)
- No scrape area south SAR/SAS site boundary (Ramboll, 2023)
- STP and LF2 SAR/SAS site boundary (Ramboll, 2023)

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Figure 1: Area Locations and Layouts
Quarterly Groundwater Report - November 2025



Legend

- Approximate site boundary (comprising majority of Former Schofields Aerodrome)
- Basin 6
- Basin 7c
- Channel 1 Extension
- Waterway (Ramboll)
- Waterway (NSW Spatial Service, 2025)
- Flow path direction (Ramboll)
- Railway (NSWSS)

+ Surface water sample

Exceedance criteria

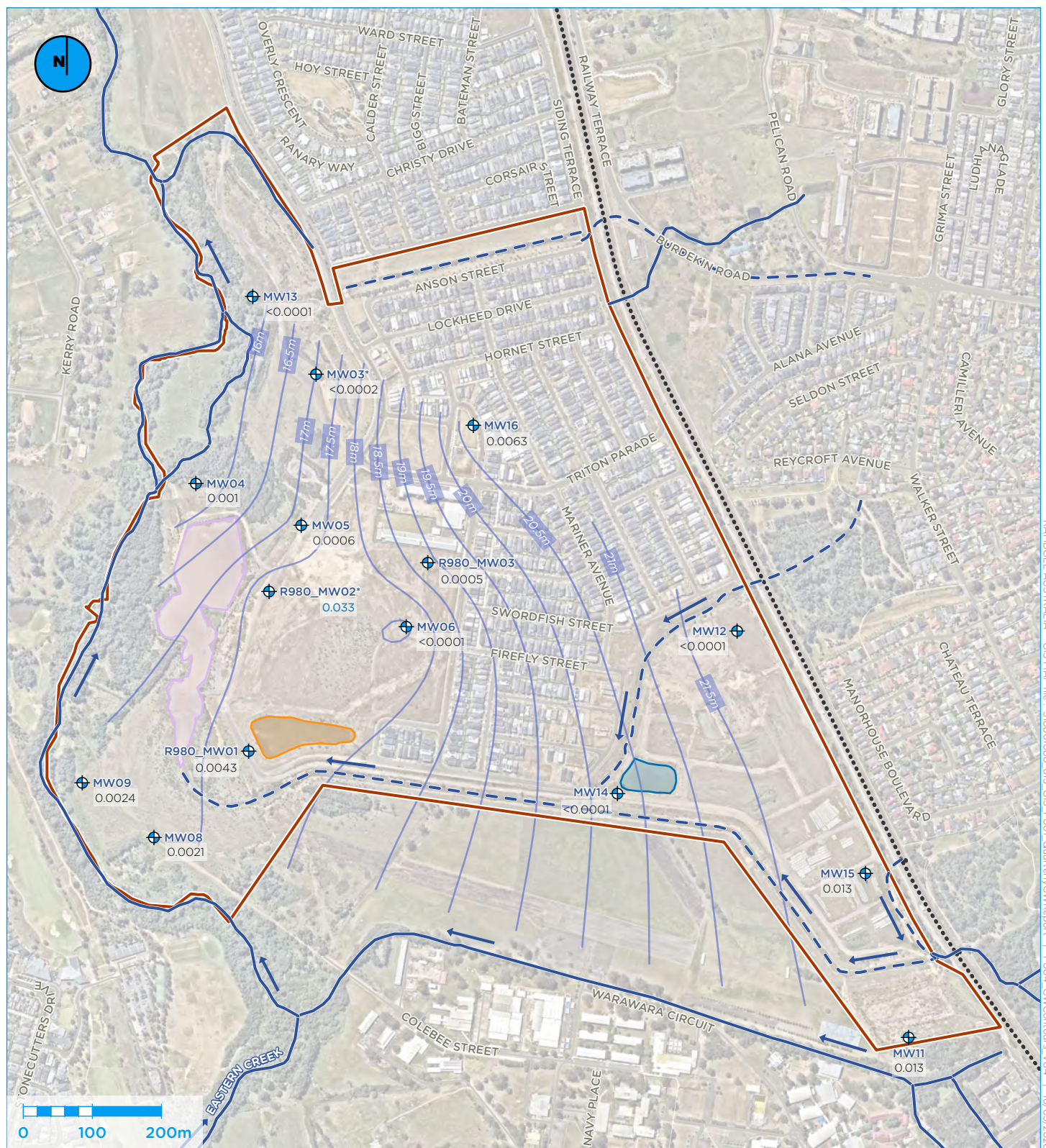
Analyte	ANZG DVGs - 99% species protection (µg/l)
Perfluorooctanesulfonic acid (PFOS)	0.02

**Highest concentration between primary, duplicate and triplicate has been adopted*

A4
1:13,000

Figure 2 : Eastern Creek Surface Water Locations and PFOS Concentrations

Quarterly Groundwater Report - November 2025



Legend

- Approximate site boundary (comprising majority of Former Schofields Aerodrome)
- Basin 6
- Basin 7c
- Channel 1 Extension
- Waterway (NSW Spatial Service, 2025)
- Waterway (Ramboll)
- Flow path direction (Ramboll)
- Railway (NSWSS)

- ⊕ Monitoring well
- Groundwater elevation contour (mAHD)
- 0.5m interval

Exceedance criteria

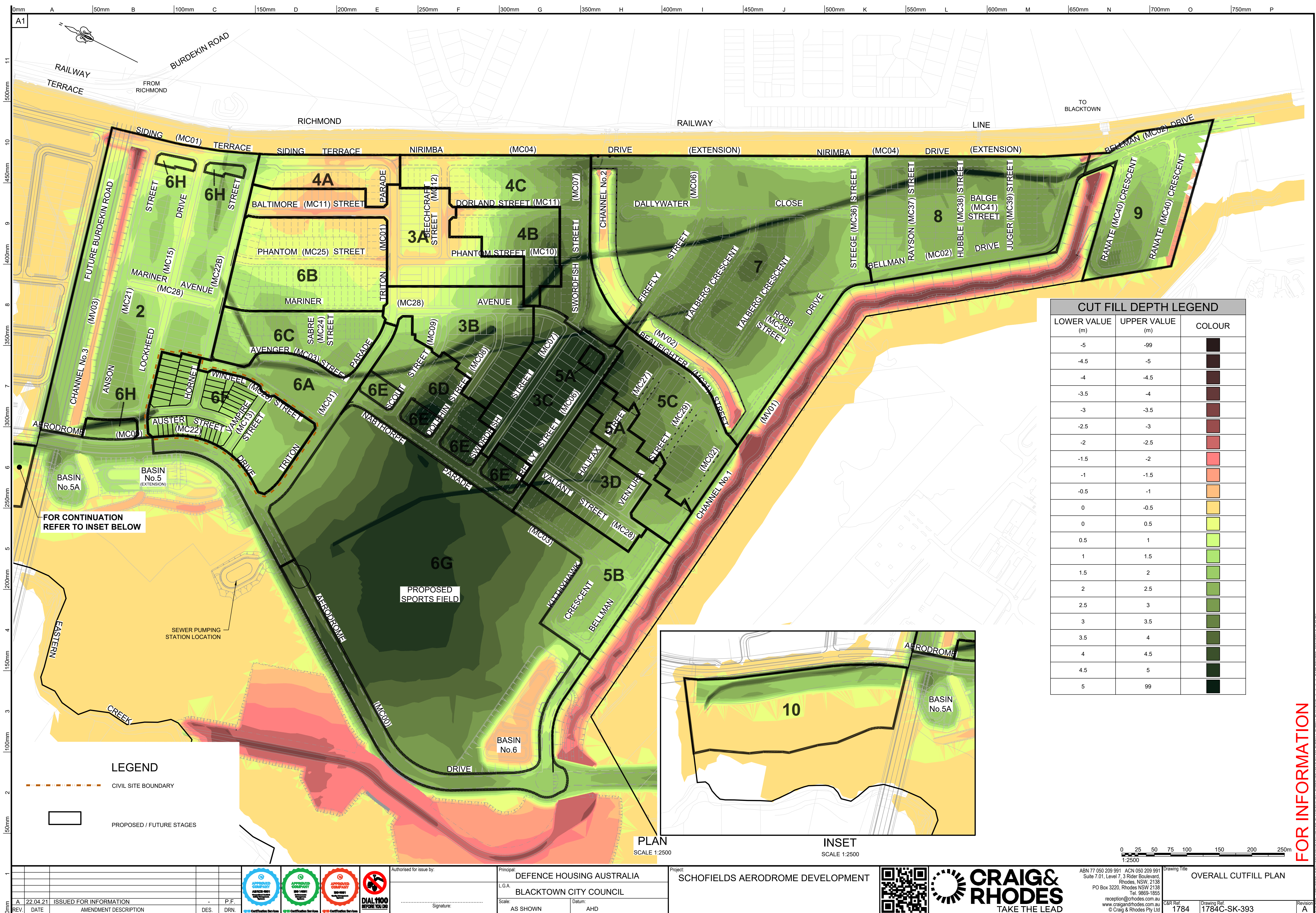
Analyte	ANZG DVGs - 99% species protection (µg/l)
Perfluorooctanesulfonic acid (PFOS)	0.02

*Highest concentration between primary, duplicate and triplicate has been adopted

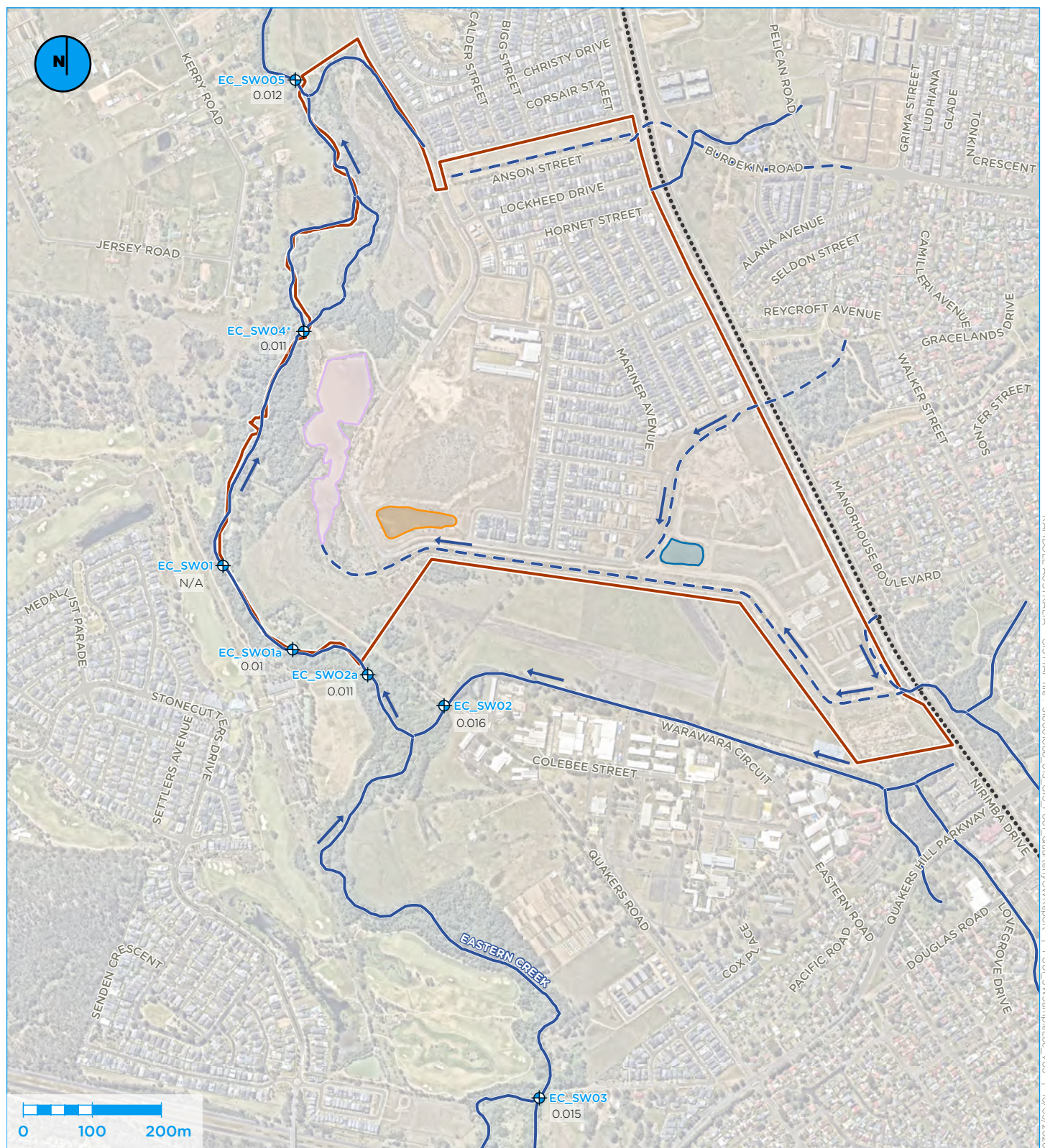
Figure 3 : Groundwater Locations and PFOS Concentrations

Quarterly Groundwater Report - November 2025

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FOR INFORMATION



Legend

- Approximate site boundary (comprising majority of Former Schofields Aerodrome)
- Basin 6
- Basin 7c
- Channel 1 Extension
- Waterway (Ramboll)
- Waterway (NSW Spatial Service, 2025)
- Flow path direction (Ramboll)
- Railway (NSWSS)

+ Surface water sample

Exceedance criteria

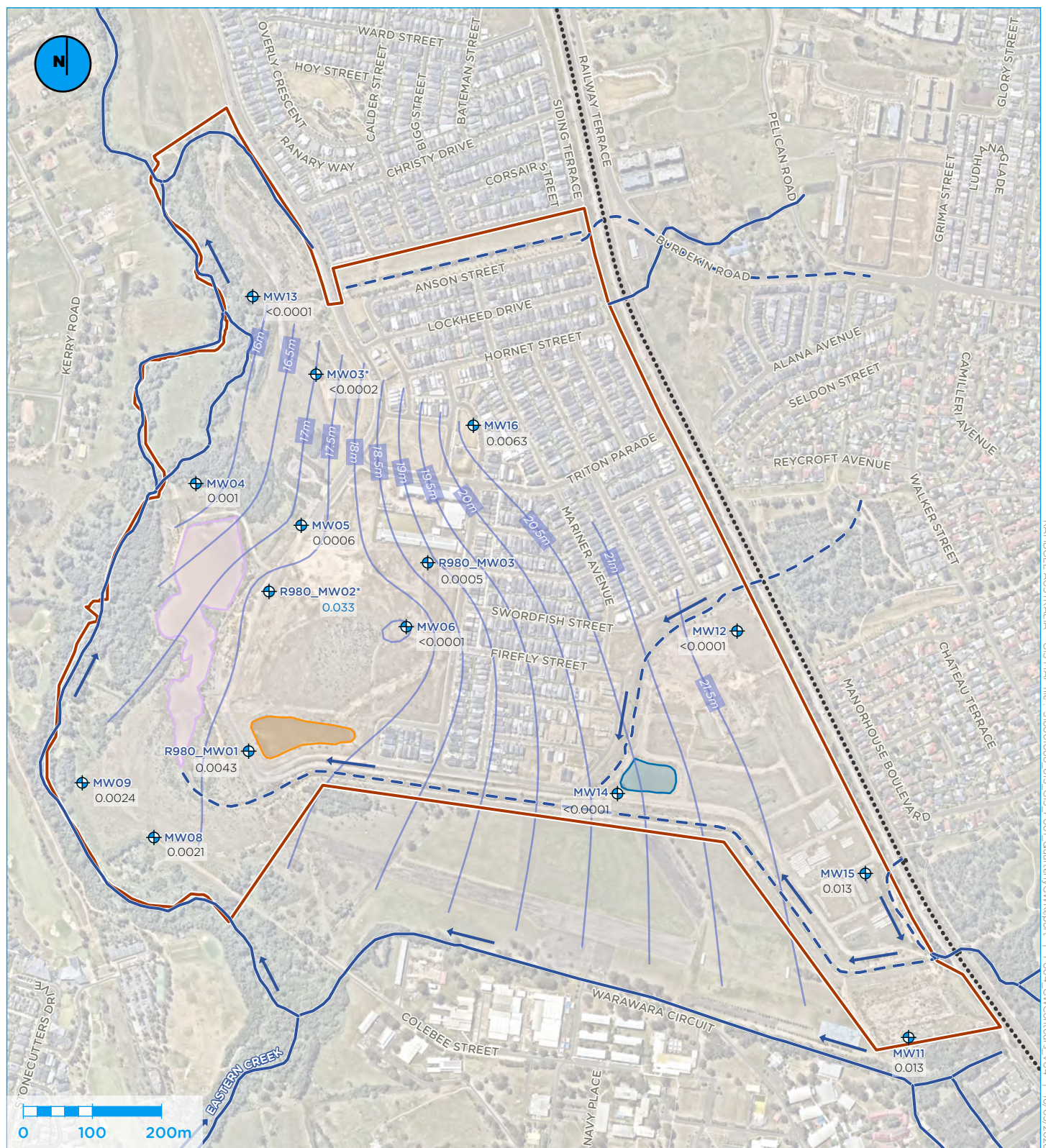
Analyte	ANZG DVGs - 99% species protection (µg/l)
Perfluorooctanesulfonic acid (PFOS)	0.02

**Highest concentration between primary, duplicate and triplicate has been adopted*

A4
1:13,000

Figure 2 : Eastern Creek Surface Water Locations and PFOS Concentrations

Quarterly Groundwater Report - November 2025



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community and aerial photography by Nearmap, flown 11/10/2025

Legend

- Approximate site boundary (comprising majority of Former Schofields Aerodrome)
- Basin 6
- Basin 7c
- Channel 1 Extension
- Waterway (NSW Spatial Service, 2025)
- Waterway (Ramboll)
- Flow path direction (Ramboll)
- Railway (NSWSS)

- ⊕ Monitoring well
- Groundwater elevation contour (mAHD)
- 0.5m interval

Exceedance criteria

Analyte	ANZG DVGs - 99% species protection (µg/l)
Perfluorooctanesulfonic acid (PFOS)	0.02

*Highest concentration between primary, duplicate and triplicate has been adopted

Figure 3 : Groundwater Locations and PFOS Concentrations

Quarterly Groundwater Report - November 2025

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1:10,000



NOTE: GDA2020 COORDINATES SYSTEM

AMEND. No.: 00 DATE: 13/04/2026 DETAILS: ORIGINAL ISSUE

Project:

SITE AUDIT PLAN OVER LOT 6001 DP126631
NIRIMBA FIELDS

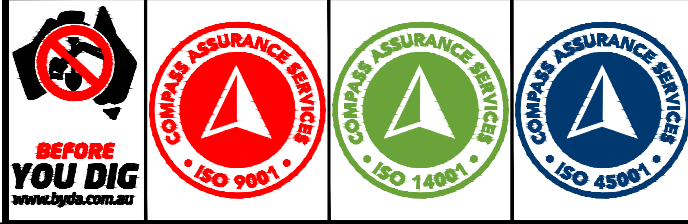
Principal: DEFENCE HOUSING AUSTRALIA

Scale 1:1000@A2	Date 13/04/2026		Council Ref.	
	Datum		L.G.A. BLACKTOWN	
Calc's SB	Drawn. JMJ	Proj.Man. BH	Client Ref.	



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Our Ref. 1784
Dwg File Ref. [Rev] - Sheet Ref.
1784G i15 [00]_Pocket Park Audit Plan
- SHEET 1 OF 1





Appendix B: EPA Guidelines



Guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997

(as of: 12 August 2022)

Section 105 of the CLM Act allows the EPA to make or approve guidelines for purposes connected with the objects of the Act. The EPA must consider these guidelines whenever they are relevant. Other people must also consider the guidelines, namely, accredited site auditors when conducting a site audit; contaminated land consultants when investigating, remediating, validating and reporting on contaminated sites; and those responsible for land contamination with a duty to notify the EPA.

A current list of guidelines made or approved by the EPA under the CLM Act appears below.

Guidelines made by the EPA

- Assessment and management of hazardous ground gases: Contaminated land guidelines (PDF 4MB)
- Guidelines for the vertical mixing of soil on former broad-acre agricultural land (PDF 148KB)
- Contaminated land sampling design guidelines part 1 – application (PDF 3.3MB)
- Contaminated land sampling design guidelines part 2 – interpretation (PDF 1MB)
- Guidelines for assessing banana plantation sites (PDF 586KB)
- Consultants reporting on contaminated land: Contaminated land guidelines (PDF 1MB)
- Guidelines for assessing former orchards and market gardens (PDF 172KB)
- Guidelines for the NSW Site Auditor Scheme, 3rd edition (PDF 999KB)
- Guidelines for the assessment and management of groundwater contamination (PDF 604KB)
- Guidelines on the duty to report contamination under the Contaminated Land Management Act 1997 (PDF 412KB)

Guidelines that refer to the:

- Australian Water Quality Guidelines for Fresh and Marine Waters (ANZECC, October 2000), are replaced as of 29 August 2018 by the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, August 2018), with the exception of the water quality for primary industries component, which still refer to the ANZECC & ARMCANZ (2000) guidelines
- National Environment Protection (Assessment of Site Contamination) Measure 1999 are replaced as of 16 May 2013 by the National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013).

Guidelines approved by the EPA

- Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZG (August 2018)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 3, Primary Industries - Rationale and Background Information (ANZECC & ARMCANZ (October 2000)
- Composite sampling, Lock, W. H., National Environmental Health Forum Monographs, Soil Series No.3, 1996, SA Health Commission, Adelaide. Email enHealth.Secretariat@health.gov.au for a copy of this publication.
- Environmental health risk assessment: Guidelines for assessing human health risks from environmental hazards, Department of Health and Ageing and EnHealth Council, Commonwealth of Australia (June 2012)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)* (ASC NEPM)
- Guidelines for the Assessment and Clean Up of Cattle Tick Dip Sites for Residential Purposes, NSW Agriculture and CMPS&F Environmental (February 1996)
- Australian Drinking Water Guidelines, NHMRC and Natural Resource Management Ministerial Council of Australia and New Zealand (2011)

*The ASC NEPM was amended on 16 May 2013.



Appendix C: Interim Audit Advice

29 April 2026

██████████
Development Manager
Defence Housing Australia
Level 5 / 111 Phillip Street, Paramatta NSW 2150

Dear ██████████

Re: Interim Audit Advice No. 1: DSI (V1.0) **Pocket Park (Stage 6A), Former Schofields Aerodrome**

1.0 Introduction and Background

As a NSW EPA accredited auditor, ██████████ was engaged by Defence Housing Australia (DHA) to complete Section A site contamination audit at a portion of former Schofields Aerodrome known as Pocket Park or Stage 6A. The former Schofields aerodrome is approximately 135 hectares and it has been developed into a new low density residential estate with suburban road network, retail/business, a school and recreational areas called Nirimba Fields.

Pocket Park or Stage 6A ('the site') was documented to be approximately 0.57 hectares and has been developed into a public open space comprising grassed lawn areas, a pedestrian footpath, an open pavilion with seating, playground area and landscaped garden areas with trees.

Pocket Park was the subject of the following site audits:

- Section A Site Audit in 2005 conducted by Environ Australian Pty Ltd (Environ).
- A supplementary Section A Site Audit in 2013 due to unexpected finds conducted by Environ: Site Audit Report – Part of Former Schofields Aerodrome, Lot 400 in DP1171596, audit number GN481 dated September 2013. This is referred to as 'Environ 2013'.
- Section B Site Audit for 'Remaining Site Area' (portion of the former aerodrome) dated October 2021 conducted by the auditor.

The scope of the previous Section B site audit was limited to the potential PFAS legacy contamination only and did not include review of the import and export of material. The auditor understands that since 2021, imported soil (virgin excavated natural material, VENM) has been imported and placed within former aerodrome.

DHA have requested additional Section A Site Audit Statements and Site Audit Reports for the various Work Land and Subdivision Stage areas of the former Schofields Aerodrome, which includes the Pocket Park.

Ramboll Environ Australia Pty Ltd (Ramboll) were engaged by DHA to undertake investigations to assess and characterise the nature and extent of contamination at the site, and to draw conclusions regarding the suitability of the site for its proposed use.



2.0 Documents Reviewed

The following reports were provided to Senversa for review:

- Ramboll (2026a) *Detailed Site Investigation, Pocket Park*, V1.0, draft, 9 April 2026. This is hereafter referred to as 'the DSI'.
- Ramboll (2026b) *Groundwater and Surface Water Monitoring Report, Nirimba Fields, Sitewide Investigations*, V1.0 dated 2 April 2026. This is provided as Appendix 2 of the DSI and is hereafter referred to as 'the Groundwater and Surface Water Monitoring Report'.

The purpose of this letter is to provide comments on the DSI.

It is understood that other areas of the former Schofields Aerodrome will be assessed and reported separately and are not discussed further in this letter. The auditor has been engaged to review these separately.

3.0 Auditor's Review

The auditor has conducted a review of the DSI in consideration of the following:

- The requirements specified in the NSW EPA *Guidelines for the NSW Site Audit Scheme* (3rd Edition) (NSW EPA 2017).
- *Consultants Reporting on Contaminated Land, Contaminated Land Guidelines* (NSW EPA 2020).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999* as amended 2013 (NEPC 2013).
- *PFAS National Environmental Management Plan Version 3.0* (HEPA 2025).
- *Sampling and Analysis Quality Plan, Nirimba Fields – Work Land and Subdivision Stage Areas* V2.0 dated 27 February 2026 (Ramboll 2026c). This is hereafter referred to as 'the SAQP'.

General Comments:

Please include a Conceptual Site Model (CSM) that covers all relevant media for the audit site (Pocket Park).

In relation to the Groundwater and Surface Water Monitoring Report, the auditor requests that more discussion be provided regarding the evaluation of the risk associated with the bioaccumulation risk posed to higher level predators, associated with concentrations above the ANZG biota screening threshold.

Detailed Comments:

1. Section 1.1: Please state whether there is any Blacktown City Council development consent issued for Pocket Park/Stage 6A and whether the audit is statutory or voluntary.
2. Table 2-1, Street address: Please note that according to the NSW Property Report and SDT Explorer online portal, Lot 6001 DP 1261631 has a street address of 'Triton Parade, Nirimba Fields 2763'.
3. Table 2-1, Elevation: Pocket Park is listed as approximately 19 to 22 mAHD (i.e. 3 m change in elevation). This seems inconsistent with the auditor's observation from 5 December 2025 where the park was observed to be generally flat with a slight mound in the southern portion.
4. Table 2-2, Surface water: Please discuss the former drainage channel (which has since been backfilled) ran across the eastern part of Pocket Park as indicated in screenshot below.



5. Table 2-2, On-site wells/depth to groundwater: Please revise as Reserve 980 is discussed instead of Pocket Park.
6. Table 2-2, Background groundwater quality: the range of groundwater physiochemical parameters presented appear to have not considered the recent data from the November 2025 GME (refer to Appendix 2 of the DSI).
7. Section 2.2:
 - The Section B SAR/SAS issued for Remaining Site Areas by the auditor should also be added to the chronology as it was discussed in Section 1.1.
 - Please state when Pocket Park was constructed.
8. Section 3.1: Please state in which AEC(s) identified in Environ 2013 SAR (as listed in Table 3-1) is Pocket Park located in and whether any elevated concentrations were reported for the Pocket Park. Currently, the discussion presented is for the entire former Schofield Aerodrome with no context provided for Pocket Park.
9. Section 3.2.1: Please state in which AEC(s) identified in Ramboll's 2021 PFAS Remainder of Site validation report is Pocket Park located in and whether any elevated concentrations have been reported for the Pocket Park. Currently, the discussion presented is for the entire 'Remaining Site Areas' with no context provided for Pocket Park. It appears that the Pocket Park is not in a specific AEC.
10. Section 3.2.1: Figure 2 (Appendix 1) shows MW01 which was installed during Ramboll's 2021 PFAS Remainder of Site validation work program. However, please clarify as MW01 was not monitored or discussed in the Groundwater and Surface Water Monitoring Report (Appendix 2).
11. Section 3.3.1:
 - Section 3.3.1 is titled "*Ramboll 2025 Additional Groundwater Well Installation*" but it appears that this section is referring to both the soil and groundwater work program detailed in the SAQP. Please revise to reflect the assessment work completed.
 - The last sentence indicated that only soil analytical results were evaluated. Please check as groundwater results should also be reviewed.
 - Please amend as the SAQP is referenced as both 'Ramboll 2026' and 'Ramboll 2026a'.
12. Table 4.1: The auditor suggests that the preliminary CSM for Pocket Park be updated to also discuss SPR-linkages groundwater and surface water, noting that there is no surface water body present.
13. Section 5.1: Please revise the text as HSLs for direct contact for residential as commercial/industrial land uses do not apply to Pocket Park.
14. Section 5.1: Please revise Table 1a Soil Analytical Results – Pocket Park (Appendix 9) as the guidelines shown in the table are not consistent with Section 5.1:
 - NEPM management limits for commercial/industrial land use (instead of residential, parkland and public open space) are adopted.
 - Amend the typographical error with 'NEPM – HIL C Residential (2013)'.
 - HIL-C for Carcinogenic PAHs as BaP TEQ and PCBs are missing and should be included.
 - HSL for direct contact for recreational/open space and HSL for intrusive maintenance workers listed in Section 5.1 are not adopted.
 - NEPM ESL (Urban residential and public open space) 180 mg/kg is for TRH F1 fraction (not TRH C6-C10).



15. Section 6: As per Section 10 of the SAQP, please discuss whether the field program has deviated from the SAQP and what the deviation was.
16. Table 6-1, VOC monitoring: PID field readings of soil headspace are documented to have been undertaken. Please provide the results that not currently shown in the borehole logs in Appendix 7.
17. Table 6-1, Borehole Target Depth: *"Target depth was 4 mbgl, or 0.5 m past the natural soil horizon, whichever was reached first."* Please clarify as this is inconsistent with Table 7-2 of the SAQP.
18. Table 6-1, Borehole Sample Collection: please discuss how the sampling was conducted at S6A_BH03 which was not advanced using a push tube.
19. Section 7.1: As indicated in borehole logs (Appendix 7), borehole S6A_BH03, S6A_BH05 and S6A_BH06 were terminated at 4 mbgl in fill material. Therefore, it appears that the imported VENM thickness at Pocket Park was not fully defined and is deeper than 4 m at these three sampling locations around the centre and southwestern part of the site.
20. Section 7.2: Please revise the referencing: *"Soil sampling locations and their concentrations for contaminants of concern are shown on Figure 2, Appendix 1."*
21. Section 7.2: As this report supports a Section A Site Audit, the auditor's opinion must be based on a review of all relevant soil data for the Pocket Park area. Historical soil results identified within the audit footprint (including TS_10C, TS_10D, TS_SS018, MW01, DR_BH022 and DR_BH010 shown in Figure 2) therefore need to be evaluated and documented. Please include these historical soil results in Appendix 9 and confirm their consideration in Section 7.2.
22. Table 8-2, Field quality control results: Table 5-1 of the SAQP stated *"Field reagent blanks at a rate of 1 per day of sampling for PFAS"* (not *"at a rate of one per batch of samples"*).
23. Section 9: *"... nor was anthropogenic material observed on the ground surface or within the fill material."* This is inconsistent with the information presented in the borehole logs in Appendix 7 where blue metal fragments and ballast were noted in the fill soil. Please clarify whether Ramboll mean anthropogenic 'waste' instead of anthropogenic 'material'.
24. Section 9: The auditor understands that the Groundwater and Surface Water Monitoring Report provided in Appendix 2 of the DSI is for the wider Work Land and Subdivision Stage areas and it was to be appended to the DSIs prepared for the different stages. However, it is recommended that Ramboll includes a short and succinct summary of the groundwater quality observed at the monitoring well(s) located within Pocket Park to support the CSM (Section 10) and Conclusion (Section 11) of the DSI. Was impact observed at MW16 and historic MW01 to indicate that Pocket Park is suitable for its proposed recreational land use?
25. Table 10-1: The auditor suggests that the refined CSM for Pocket Park be updated to also discuss SPR linkages for groundwater and surface water, noting that there is no surface water body present.
26. Section 11: Pocket Park has been fully constructed with landscaping (e.g. imported mulch) and a Section A Site Audit Statement is required for the constructed park. Therefore, could discussion be added about the suitability of the landscaping material (e.g. garden mulch and the presence/absence of ACM and/or anthropogenic waste etc.) already imported to the audit site.
27. Appendix 5: Please amend as the summary table listing 37 VENM certificates were incorrectly inserted into the 2nd page of Appendix 5.



Appendix 2 – Groundwater and Surface Water Monitoring Report V1.0 dated 2 April 2026.

28. Section 1.3: Section 3.3.2 of the SAQP indicated that surface water (and sediment) sampling was conducted at Channel 1 and Channel 2 on 29-30 October 2025. Please clarify what/where this work will be reported as the auditor notes that it is not included in this report.
29. Section 2.1: It would be beneficial to discuss the various basins and drainage channels (i.e. surface water bodies) present at the Work Land and Subdivision Stage areas. They do not appear to have been assessed to characterise the site wide hydrogeology and groundwater quality (refer to objective of this assessment as per Section 1.2). Furthermore, please discuss which basins are proposed to be removed and which are to remain.
30. Section 3.2: Please discuss whether there are any identifiable sources of contamination located up-gradient of the former aerodrome (3rd bullet). E.g. the railway line, commercial/industrial areas, farms or old landfills present.
31. Section 3.2: There is a newly constructed sewer pump station within the Work Land and Subdivision Stage areas (located at 2192 Firefly Street; see screenshot overleaf). Please evaluate whether it is a potential source of contamination.



32. Section 3.2 and 3.3: Section 3.1 identified many CoPCs, and yet the discussions in Section 3.2 and 3.3 predominantly refer to PFAS. Please revise to be consistent with Section 3.1.
33. Section 3.4: Human and ecological receptors associated with off-site Eastern Creek are discussed but the on-site human and ecological receptors (i.e. residents living in former aerodrome, Pocket Park, etc.) are not mentioned.
34. Section 3.5: The discussion presented is focused on off-site Eastern Creek. Please also discuss the exposure assessment for on-site human and ecological receptors. For example:
- Confirm whether groundwater is extracted for use within Work Land and Subdivision Stage areas.
 - Table 1 (Appendix 2) shows that water levels less than 2 mbTOC were measured but the potential for dermal contact or incidental ingestion for intrusive workers do not appeared to have been considered.
35. Section 4.1.3: Section 3.6 notes that although the contribution of PFOS from the site may be small, higher-order predators at Eastern Creek may still be exposed to PFAS. The auditor recommends that the ANZG 2018 PFOS biota screening threshold be adopted as a screening criterion (and be added to Table 4-3).

The auditor is unclear as to why Ramboll indicate that the biota screening threshold is not adopted as “*primary screening criterion for this assessment*”. The auditor notes that groundwater and surface water results were compared to the biota screening thresholds in Table 3 and Table 5 (Appendix 2) and were discussed in Section 8.3 and should be adopted given no other justification provided.

36. Section 5:
- Three new groundwater monitoring wells were installed as part of this work program, but the installation methodology is not discussed. In addition, please confirm whether the new wells were developed.
 - Please update to include borehole logs in Appendix 3.
 - Table 7-2 of the SAQP indicated that the new groundwater monitoring wells are to be surveyed. Confirm whether this was conducted and where the survey data/report is located.



37. Table 5-3: Please state the depth that the surface water samples were collected from.
38. Section 6: As per Section 10 of the SAQP, please discuss whether the field program has deviated from the SAQP and what the deviation was. The auditor notes that the SAQP does not include surface water sampling at Eastern Creek.
39. Table 6-1 and Appendix 2, Table 1: Please provide the depth to groundwater in metres below ground level (mbgl) as well.
40. Table 6-2: Please check as 21.9 °C was also measured at MW14.
41. Section 6.2.2: *"Surface water analytical results from the November 2025 monitoring event..."*
This is incorrect as surface water was sampled in October and November 2025.
42. Table 7-2, Field quality control samples: please revise as there are two contradictory statements about rinsate blanks: "Three rinsate blanks were collected..." "Six rinsate blanks were collected and analysed for PFAS..."
43. Table 7-2, Field quality control results: Two out of the three rinsate blanks reported nickel or zinc detections (which were the COPCs with concentrations above the adopted ecological criteria). Perhaps this is more than *'incidental contamination'*, consider cross-contamination may influence the results.
44. Table 7-2, Laboratory quality control results: Please check the following:
 - Appendix 6 included Eurofins report 1287930-S-V2 which does not appear to be relevant as it is not for groundwater or surface water. Did the laboratory QAQC review conducted by Ramboll include Eurofins report 1287930-S-V2?
 - Please amend the text as there was no soil samples: *"Results for laboratory soil duplicates,"*
 - Eurofins report 1287930-W-V2 indicated two (not three) method blanks non-conformances. Also, the method blank did not report no detects (e.g. 0.012 mg/L tetrachloroethene reported on page 63 of 1287930-W-V2, 0.0001 µg/L PFOS reported on page 68 of 1287930-W-V2.)
45. Section 8: Please check the flow direction: *"a groundwater flow direction towards the east and Eastern Creek."*
46. Section 8.1.2: Please discuss the elevated concentrations of copper and zinc above the adopted ecological criteria were reported in surface water (refer to Table 6-5).
47. Section 8.2.2: The auditor notes that Channel 1 Extension has been present since 2019, therefore it is unclear how the groundwater-surface water interactions are considered 'transient' (page 30). The auditor also notes that further assessment and reporting is proposed to understand the groundwater-surface water interaction in the Work Land and Subdivision Stage areas and the auditor expects this assessment to include Eastern Creek. Detailed comments will be provided about this topic in due course.
48. Section 8.3: Please provide data or evidence to support these statements:
 - *"... the potential for Eastern Creek acts as a losing stream, after periods of prolonged rainfall"*.
 - *"Channel 1 Extension basin, a temporary waterbody known to contain PFAS."* The discussion about the status of the Channel 1 Extension basin is unclear as no sampling results were presented. It is a large water body which has been present on-site since 2019 and wildlife (e.g. birds) were intermittently observed at the basin, and therefore, there is still a potential for air-breathing animals to be exposed.
49. Section 8.3: *"As such, the biota screening threshold exceedances do not indicate an unacceptable ecological risk"*. Confirm which environment (SPR linkage) this statement is referring to i.e., groundwater from the site migrating to Eastern Creek. Consider the surface water within Eastern Creek that reported elevated PFOS concentrations above the PFOS biota screening threshold at all six sampling locations.
50. Table 9-1: Table 1 (Appendix 2) shows water level to be less than 2 mbTOC at selected locations. Please evaluate the SPR linkages of direct dermal contact and incidental ingestion.
51. Section 10: The text presented may need to be revised based on the comments above.



52. Section 10.1: “*Eastern Creek is unlikely to be used for recreational purposes.*” This is inconsistent with the discussion presented in Section 4.1 which suggests that “*there is potential for parts of the creek may be occasionally used recreationally*”.
53. Section 10.3: The auditor recommends that surface water at Eastern Creek be sampled as well as groundwater over the next 2 years.
54. Figure 1 (Appendix 1): Please shown the location of Channel 1 Extension Basin (potential source of contamination) and Basin 5.
55. Figure 2 (Appendix 1): EC_SW01 is shown with 0.01 µg/L PFOS. This is inconsistent with Table 5 (Appendix 2) which indicated that EC_SW01a (not EC_SW01) was sampled in 2025.

4.0 Closure

Please revise the DSI and the Groundwater and Surface Water Monitoring Report addressing the comments above.

If you have any comments or questions, please do not hesitate to contact the undersigned at [REDACTED] or via mobile on [REDACTED]

Yours sincerely,

[REDACTED]

[REDACTED]
NSW EPA Accredited Auditor

Technical Limitations and Uncertainty – Ramboll Environ Australia Pty Ltd included limitations in their report. The 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. The Auditor has relied on the documents referenced in preparing the Auditors’ opinion. If the Auditor is unable to rely on any of those documents, the conclusions of the audit could change. It is not possible in a Site Audit Report to present all data which could be of interest to all readers of this report. 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.

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27 May 2026

██████████
Development Manager
Defence Housing Australia
Level 5 / 111 Phillip Street, Paramatta NSW 2150

Dear ██████████

Re: Interim Audit Advice No. 2: DSI (V3.0)

Pocket Park (Stage 6A), Former Schofields Aerodrome

1.0 Introduction and Background

As a NSW EPA accredited auditor, ██████████ was engaged by Defence Housing Australia (DHA) to complete Section A site contamination audit at a portion of former Schofields Aerodrome known as Pocket Park or Stage 6A. The former Schofields aerodrome is approximately 135 hectares and it has been developed into a new low density residential estate with suburban road network, retail/business, a school and recreational areas called Nirimba Fields.

Pocket Park or Stage 6A ('the site') was documented to be approximately 0.57 hectares and has been developed into a public open space comprising grassed lawn areas, a pedestrian footpath, an open pavilion with seating, playground area and landscaped garden areas with trees.

Pocket Park was the subject of the following site audits:

- Section A Site Audit in 2005 conducted by Environ Australian Pty Ltd (Environ).
- A supplementary Section A Site Audit in 2013 due to unexpected finds conducted by Environ: Site Audit Report – Part of Former Schofields Aerodrome, Lot 400 in DP1171596, audit number GN481 dated September 2013. This is referred to as 'Environ 2013'.
- Section B Site Audit for 'Remaining Site Area' (portion of the former aerodrome) dated October 2021 conducted by the auditor.

The scope of the previous Section B site audit was limited to the potential PFAS legacy contamination only and did not include review of the import and export of material. The auditor understands that since 2021, imported soil (virgin excavated natural material, VENM) has been imported and placed within former aerodrome.

DHA have requested additional Section A Site Audit Statements and Site Audit Reports for the various Work Land and Subdivision Stage areas of the former Schofields Aerodrome, which includes the Pocket Park. Other areas of the former Schofields Aerodrome external to Pocket Park will be assessed and reported separately, and are not discussed further in this letter. The auditor has been engaged to review these separately.

Ramboll Environ Australia Pty Ltd (Ramboll) were engaged by DHA to undertake investigations to assess and characterise the nature and extent of contamination at the site, and to draw conclusions regarding the suitability of the site for its proposed use.



2.0 Documents Reviewed

The table below lists the previous documents provided to the auditor.

Document	Corresponding Auditor's Interim Advice
Ramboll (2026a) <i>Detailed Site Investigation, Pocket Park</i> , V1.0, draft, 9 April 2026.	Interim Audit Advice (IAA) No. 1: DSI (V1.0), Pocket Park (Stage 6A) dated 29 April 2026 (ref: S21376_012_LET01_Rev0)
Ramboll (2026b) <i>Groundwater and Surface Water Monitoring Report, Nirimba Fields, Sitewide Investigations</i> , V1.0 dated 2 April 2026. This is provided as Appendix 2 of the Detailed Site Investigation V1.0 listed above.	

Subsequently, the following report was revised and provided to Senversa for review:

- Ramboll (2026c) *Detailed Site Investigation, Pocket Park*, V3.0, 18 May 2026. This is hereafter referred to as 'the DSI'.
- Ramboll (2026d) *Groundwater and Surface Water Monitoring Report, Nirimba Fields, Sitewide Investigations*, V2.0, 18 May 2026. This is provided as Appendix 2 of the DSI listed above.

The purpose of this letter is to provide comments on the DSI (Ramboll 2026c) and the Groundwater and Surface Water Monitoring Report (Ramboll 2026d).

3.0 Auditor's Review

The auditor has conducted a review of the DSI and the Groundwater and Surface Water Monitoring Report in consideration of the following:

- The requirements specified in the NSW EPA *Guidelines for the NSW Site Audit Scheme* (3rd Edition) (NSW EPA 2017).
- *Consultants Reporting on Contaminated Land, Contaminated Land Guidelines* (NSW EPA 2020).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999* as amended 2013 (NEPC 2013).
- *PFAS National Environmental Management Plan Version 3.0* (HEPA 2025).
- *Sampling and Analysis Quality Plan, Nirimba Fields – Work Land and Subdivision Stage Areas* V2.0 dated 27 February 2026 (Ramboll 2026c). This is hereafter referred to as 'the SAQP'.

DSI

The auditor considers that the DSI (Ramboll 2026c) has been generally prepared in line with relevant EPA guidelines. It has been revised to address the majority of the auditor's comments from April 2026.

The auditor requests that Blacktown City Council's DA-19-01497 be added to Section 1.1 (last paragraph) in the discussion about development consent issued for Pocket Park.

Appendix 2 – Groundwater and Surface Water Monitoring Report V1.0 dated 2 April 2026.

1. Table 5-1: "Screens are up to 3 m in length..." Please amend as screens longer than 3 m were installed at the new groundwater monitoring bores:
 - MW14 – 4 m screen
 - MW15 – 4.5 m screen
 - MW16 – 3.5 m screen



2. Table 5-4: Please amend as the sentence is incomplete: *"Surface water samples were collected using a swing sampler from 10-20 cm below the surf"*
3. Appendix 2, Table 1: Please check as stick up (m) and depth to groundwater (metres below ground level) have not been included (repeat of Item 39 of IAA No. 1).
4. Section 8.3, Hydrogeological context of elevated wells: Ramboll has interpreted that Eastern Creek could be 'losing stream' based on the EC and TDS data measured at MW08. Please note that MW08 is located adjacent to a former unlined landfill (LF2) which has been remediated and backfilled (as discussed in the 2013 Section A Environ SAR), thus the low salinity observed at this bore may be associated with recharge from the former landfill. The auditor acknowledges that more data is required to address this data gap, and further assessment is proposed to understand the groundwater-surface water interaction including Eastern Creek.
5. Section 8.3: The revised Section 8.3 is much improved and presented the weight-of-evidence assessment logically. Please consider adding some discussion about foraging range of the higher order predators to support the weight-of-evidence assessment as it was only introduced in the last paragraph of Section 8.3 (page 35).
6. Table 9-1: Please amend typographical error with: *"...mainly in the Eastern Creek riparian corridor..."*
7. Section 10.1: Please revise this sentence *"...however, no Eastern Creek is unlikely to be used for recreational purposes...."*

4.0 Closure

Please finalise the DSI and the Groundwater and Surface Water Monitoring Report addressing the comments above and provide a copy of the final report to the auditor.

If you have any comments or questions, please do not hesitate to contact the undersigned at [REDACTED] or via mobile on [REDACTED]

Yours sincerely,

[REDACTED]

[REDACTED]
NSW EPA Accredited Auditor

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