



Asbestos Management Plan

475 Badgerys Creek Road, Badgerys Creek NSW

9 November 2023



Document Information

Badgerys Creek Asbestos Management Plan 475 Badgerys Creek Road, Badgerys Creek NSW

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Senversa acknowledges the traditional custodians of the land on which this work was created and pay our respect to Elders past and present.



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List of Acronyms

Acronym	Definition	Acronym	Definition
ACM	Asbestos Containing Material	UF	Unexpected Find
AMP	Asbestos Management Plan	UFP	Unexpected Find Protocol
ARCP	Asbestos Removal Control Plan	WHS	Workplace Health and Safety
DP	Deposited Plan		
DSI	Detailed Site Investigation		
EC	Environmental Consultant		
EMP	Environmental Management Plan		
ENT	Enterprise (zoning)		
ENZ	Environment and Recreation (zoning)		
EPA	Environment Protection Authority (NSW)		
IPG	Ingham Property Group		
NEPM	National Environment Protection Measure		
NOHSC	National Occupational Health and Safety Commission		
NSW	New South Wales		
PCBU	Person Conducting Business or Undertaking		
PPE	Personal Protective Equipment		
SEPP	State Environmental Planning Policy		
SP2	Infrastructure (zoning)		
TBC	To be confirmed		



1.0 Introduction and Objectives

1.1 Introduction

Senversa Pty Ltd (Senversa) was engaged by Ingham Property Group Pty Ltd (IPG) to prepare an Asbestos Management Plan (AMP) for the site located at 475 Badgerys Creek Road, Badgerys Creek, NSW (the site). The site is indicated on **Figure 1**. The site is legally described as Lot 100 in Deposited Plan (DP) 1287207 and encompasses approximately 180 hectares.

The site is located within the Western Sydney Aerotropolis precinct and as such has recently been rezoned under the Western Parkland City State Environmental Planning Policy (SEPP), which repealed the previously applicable SEPP (Western Sydney Aerotropolis) and consolidated a number of other Western Sydney precinct SEPPs. The current zoning includes:

- 'ENT – Enterprise' which covers the majority of the site;
- 'ENZ - Environment and Recreation' which includes small areas of the site surrounding creek lines, mainly in the east; and
- 'SP2 – Infrastructure' which includes road easements.

The site has been the subject of several contaminated site assessments, targeted remediation and validation since 2019. The site has been validated as suitable for ongoing commercial/industrial use; however, residual asbestos has the potential to be present based on the site history.

As a person conducting a business or undertaking (PCBU), IPG has a responsibility under the *NSW Work Health and Safety Act 2011* and WHS Regulation to prepare an AMP that sets out the identification and location (if known) of the asbestos, and the workplace management controls put in place to manage any ongoing potential risk to site users.

1.2 Objective

The objective of this AMP is to briefly summarise the occurrence of asbestos at the site and to outline the procedures and controls for management of the asbestos should it be encountered during development works.

1.3 Regulatory Information

This AMP is provided to assist with the management of potential risks posed by asbestos in accordance with recommendations from Badgerys Creek Environmental Report (Senversa, 2023)¹¹.

Senversa notes that the site has been validated (Senversa (2023)) as suitable for the intended use, i.e., commercial/industrial use; however, there is the possibility that residual asbestos may be encountered during sub-surface works at the site. This AMP relates to the measures required should asbestos impacted materials be discovered at the site.

1.4 Site Understanding

The former site layout and property boundary is indicated on **Figure 2**.

¹ Senversa (2023) Badgerys Creek Environmental Report, 475 Badgerys Creek Road, Badgerys Creek NSW



The site consists of large areas of grassland, wooded bushland, farm dams and formerly included seven individual chicken farms. Each 'farm' comprised a series of broiler sheds and smaller buildings and a homestead with associated garden areas and parking. Several industrial buildings were located at the west of the site, and a rendering plant was formerly located in the centre of the site. A main access road bisects the site, with access to each former area being from farm tracks leading off the main road. South Creek runs along the eastern site boundary and flows north.

The surrounding land use is a mixture of agricultural, industrial, and rural residential properties, but is currently undergoing extensive development as part of the new airport precinct.

In 2019 and 2020, a soil assessment as part of a DSI¹² was undertaken by Senversa and identified the following:

- Asbestos was identified at multiple locations on Farm 1, Farm 2, and Farm 5; in both initial testing in 2019 (laboratory and gravimetric), and further visual assessment in 2020.
- Farms 3, 4, 6, 7 were largely free from widespread asbestos impacts based on the locations assessed in the DSI.
- Asbestos was identified at a former factory area on the site (rendering plant) as an unexpected find (UF01).

As a result of the asbestos finds, the following remediation and validation works were conducted between 2019 and 2021:

- At Farm 1 and Farm 2, approximately 1,300 m³ of soil material impacted with asbestos containing material (ACM) was emu-picked, validated through visual clearances, and the material lawfully disposed of to a landfill.
- Impacted areas of Farm 5 was emu picked and validated without material being excavated due to the nature of the occurrences of asbestos being surficial only.
- At UF01, at the rendering plant, approximately 1,110 m³ of soil material impacted with ACM was excavated from within the footprint of the former factory area and lawfully disposed of to a landfill.

Following remediation and validation, results indicated the following:

- At one location a validation sample contained a concentration of asbestos fines/fibrous asbestos (AF/FA) above the validation criteria; however, the result indicated that the exceedance was anomalous and unrepresentative of the site.
- Removal of asbestos was successful at Farm 1, Farm 2, and Farm 5, and the areas were deemed suitable for the proposed commercial/industrial use.

It was concluded that remediation and validation efforts between 2019 and 2021 addressed asbestos-contaminated areas, confirming successful removal and the suitability of the whole site for the proposed commercial/industrial use.

1.5 Responsibilities and Communications

The site owner or their representative shall be responsible for providing this AMP to the person(s) with control of the site. The person(s) with control of the site shall be responsible for the implementation and update of this AMP. All on site personnel, subcontractors, and consultants involved in relevant work activities at the site shall be made aware of and receive training in the AMP.

This AMP should be read in conjunction with any Asbestos Removal Control Plan (ARCP) for the site, which is required to be prepared by a licensed asbestos removalist if asbestos is found and is to be removed from site. The Principal Contractor, or any subcontractor, completing intrusive works at the site is also required to prepare a Safe Work Method Statement (SWMS) prior to the works commencing.

² Senversa (2023) Badgerys Creek Environmental Report, 475 Badgerys Creek Road, Badgerys Creek NSW



The following table indicates the roles and responsibilities for the management of asbestos impacted soils at the site.

Table 1-1: Roles and Responsibilities

Company	Role	Responsibilities
IPG	Site owner/Principal Contractor	<ul style="list-style-type: none"> Overall responsibility for workplace health and safety (WHS) and informing site users of the applicability of any plans relating to the site. Preparation of safe work method statements (SWMS) (or delegation of such). Managing risks associated with engaged subcontracts or subconsultants
Site Users	Agistment	<ul style="list-style-type: none"> To have been made aware of the AMP and its contents.
TBC¹	Licensed Asbestos Removalist ²	<ul style="list-style-type: none"> Ensuring an asbestos removalist supervisor is readily available or present should asbestos removal work be carried out. Providing appropriate training and ensuring the asbestos removal worker has undertaken the relevant units of competency associated with the asbestos removal. Informing relevant parties about the asbestos removal and providing them with appropriate information. Obtaining the workplace's asbestos register. Preparing an asbestos removal control plan. Notifying the regulator about the work before it starts. Displaying signs and installing barricades in the asbestos work area. Limiting access to the asbestos work area. Ensuring appropriate decontamination facilities are in place. Ensuring waste containment and disposal procedures are in place.
Senversa	Environmental Consultant (EC)	<ul style="list-style-type: none"> Soil sampling for validation and/or off-site disposal. Provision of visual clearance certificates for non-friable asbestos removal work.
TBC¹	Occupational Hygienist	<ul style="list-style-type: none"> Daily air monitoring during excavation and material movement days. Provision of visual clearance certificates for friable removal work.

Notes:

1. TBC – To be Confirmed, none engaged at time of AMP preparation.
2. See Section 1.5.1.

1.5.1 Licensing Requirements

It is noted that the site owner or their representative is required to ensure that any asbestos removalist engaged to undertake works at the site holds the appropriate licence to undertake the planned work. Licences can be verified using the link: <https://verify.licence.nsw.gov.au/home>.

The impacted material at the site contained largely non-friable (bonded) asbestos but also contained limited friable asbestos, and as such the licensee should hold a current Class A asbestos removal licence.

1.6 Guiding Documents

- *Work Health and Safety Act 2011* (NSW) and associated regulations.
- *Managing Asbestos in or on soils* (WorkCover NSW, 2014).



- How to Safely Remove Asbestos Code of Practice (Safe Work Australia 2011).
- Code of Practice How to Manage and Control Asbestos in the Workplace [Safework Australia] (July 2020).



2.0 Summary of Identified Asbestos Issues

2.1 Definitions of Asbestos

The SafeWork Australia *Code of Practice How to Manage and Control Asbestos in the Workplace* contains the following definitions of forms of asbestos:

- Friable asbestos - 'material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos.
- Non-friable asbestos as 'material containing asbestos that is not friable asbestos. Including materials containing asbestos fibres reinforced with a bonding compound', which therefore includes bonded fibre cement products.

2.2 Site Specific Details

Following site remediation undertaken between 2019 and 2021, Farms 1 to Farms 7 have been remediated and it is understood that no known residual asbestos contamination is present in these areas. Areas outside remediated areas were assessed as part of the wider DSI and were not considered to require further assessment or remediation based on the approved commercial/industrial land use.

The site as a whole is considered suitable for the ongoing commercial/industrial use; however, it is possible that residual asbestos may remain in unexpected areas across the site.

In the event that residual asbestos is found, the unexpected finds protocol included as **Appendix A** should be enacted, and the controls listed within this document should be adopted.



3.0 Management Controls

3.1 Identification of Asbestos

The surface soils at the site, if impacted by asbestos are most likely to be impacted by non-friable (bonded) ACM. However, soils have the potential to contain both:

- non-friable (bonded) ACM, which can generally be identified by persons who have been trained in visually identifying ACM; and
- friable asbestos, which is generally unable to be easily visually identified due to its size being <7 mm.

Fill material should be assumed to also contain friable asbestos if ACM is observed and the below mitigation and control measures should be applied.

If further asbestos remediation or removal works is completed, records of activities completed, inspections, air monitoring, sampling, and laboratory analysis should be kept by the Principal Contractor, and the EC.

3.2 Mitigation and Management Requirements

The following management and mitigation measures shall be initiated if ACM is observed.

Table 3-1: Mitigation and Management Requirements

Activity	Management and Mitigation Measures
General	The primary asbestos management measure is to avoid ground disturbance.
Excavation and stockpiling of soils	<p>Where excavation is unavoidable, adherence to the controls listed herein and within the ARCP (to be prepared by the Licensed Asbestos Removalist) is mandatory. The Class A licensed asbestos assessor must be in control of the designated asbestos areas.</p> <p>Inspection of excavations and excavated materials to identify suspected asbestos shall be conducted in accordance with the monitoring requirements and indicators detailed in Section 3.3.</p> <p>Excavated materials should be stockpiled on a sealed surface, or on plastic sheeting to prevent contamination of the underlying surface. Once the stockpile is formed, material should be securely covered with plastic sheeting if it is to remain in place for more than 24 hours and surrounded by sediment controls to prevent sediment egress from area.</p> <p>All fill material shall be visually inspected by both the licenced asbestos assessor and Environmental Consultant (EC). Photographic records and soil logs / records will be collected by the EC for inclusion in a validation report.</p>
On-site reuse of excavated materials	<p>Reuse of material confirmed to contain asbestos is not permitted in the upper 1 m of the site (including directly at the surface) due to the inherent risk of fibre release; however, material may be suitable for use at depth (following remediation and validation) if it is appropriately managed under an environmental management plan (EMP), e.g., beneath an engineered cap.</p> <p>Material may be disposed of off-site to a licensed landfill following appropriate waste classification by the EC.</p>



Activity	Management and Mitigation Measures
Waste management	<p>All waste excavated materials must be classified in accordance with the NSW EPA <i>Waste Classification Guidelines</i> (2014) if disposed off-site.</p> <p>All waste materials must be transported and disposed lawfully to an appropriately licensed facility – noting that not all landfills may be licensed to dispose of material classified as 'Special waste – asbestos waste'.</p>
Unexpected Finds	Refer to the unexpected finds protocol attached as Appendix A .
Reporting	<p>Records of activities completed, inspections, air monitoring, sampling, waste classification, waste disposal documentation, field screening and laboratory analyses should be kept.</p> <p>Appropriate notification to SafeWork should be made for any removal work, the licensed asbestos removalist is responsible for notifying SafeWork of the planned work.</p>

3.3 Specific Requirements

It is noted that asbestos may be encountered throughout the site as an unexpected find. Material in which asbestos is not identified (see **Section 3.1**) can be excluded from the AMP. Any work involving identified asbestos impacted material should be undertaken in accordance with the relevant WHS regulations and will require the following:

- An ARCP prepared by the Licensed Asbestos Removalist.
- Safework NSW permit for friable asbestos removal works.
- Supervision by a Class A Licensed Asbestos Removalist.
- Monitoring by a Licensed Asbestos Assessor.

It is noted that asbestos on the site to date has been largely bonded in nature, however friable asbestos has been identified and bonded ACM has the potential to degrade and become friable. For this reason, controls stated in this AMP cover friable material, but are also relevant to bonded ACM.

The following site-specific procedures should be adhered to at all times during work with asbestos impacted material. These controls are not intended to supersede those listed in an ARCP, developed for specific asbestos removal activities.

- All site personnel involved with asbestos related works should have completed asbestos awareness training.
- All site personnel will be made aware of the bonded and friable asbestos contamination during site inductions and tool box meetings. The work area must be clearly defined, and barricaded at the perimeter and only authorised people shall enter the area.
- Warning signs for asbestos must be clearly displayed on the perimeter fencing.
- Personal protective equipment (PPE) requirements for personnel within the asbestos area shall consist of:
 - P2 (or higher) class half face respirators (i.e. dust masks are not considered appropriate due to the risk of friable ACM).
 - Disposable gloves and coveralls made from materials which provide adequate protection against fibre penetration.
- An appropriate exclusion zone shall be established around the perimeter of the asbestos work area. The dimensions of the exclusion zone are to be determined by the Class A licensed asbestos contractor.



- All workers and plant in the asbestos area will be required to use the decontamination unit before leaving the asbestos work area. Decontamination should be undertaken in accordance with the codes of practice and the ARCP and be appropriate for the type of asbestos encountered.
- Personal decontamination must be undertaken each time a site worker leaves the asbestos works area and at the completion of the works.
- All disposable PPE shall be disposed of as asbestos waste.
- Clearance air monitoring is required to be undertaken in the work area in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition* [NOHSC: 3003(2005)] for the duration of the work. The results of daily monitoring must be available on site for the reference of site personnel at all times.
- Dust suppression and dust minimisation is required during all intrusive works, in particular in the south of Farm 2, where the stockpiles are located. A water cart or hoses are required on site at all times when intrusive works are being completed, and works should not be undertaken when windy conditions are forecast (wind speeds greater than 20 kmh). The site ARCP will detail dust suppression requirements for each specific work sites.
- At the completion of works, a clearance certificate must be provided documenting that the site has been returned to a condition safe for re-occupation without ongoing asbestos related controls.



4.0 Incident Reporting and Notification

4.1 Incident Reporting

An incident reporting register is required to be kept on site at all times and is the responsibility of the Principal Contractor to maintain.

If a notifiable incident occurs in connection with any asbestos removal, it is expected that the works will have been undertaken under an asbestos removal control plan (ARCP), in which case the licensed asbestos removalist must keep the plan for at least two years after the incident occurs.

4.2 Notification

As per WHS Regulation clause 466, Safework NSW (the regulator) must be notified in writing of the intention to carry out asbestos removal work at least five days in advance of any works. It is the responsibility of the licensed asbestos removalist to notify the regulator prior to the works commencing.

Notification can be undertaken at the following link: <https://www.safework.nsw.gov.au/notify-safework/asbestos-notifications>.



5.0 Principles and Limitations of Investigation

The following principles are an integral part of site contamination assessment practices and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the user or site assessor.

Table 5-1: Project Specific Uncertainties

Area	Field Observations and Analytical Results
Elimination of Uncertainty	Some uncertainty is inherent in all site investigations. Furthermore, any sample, either surface or subsurface, taken for chemical testing may or may not be representative of a larger population or area. Professional judgment and interpretation are inherent in the process, and even when exercised in accordance with objective scientific principles, uncertainty is inevitable. Additional assessment beyond that which was reasonably undertaken may reduce the uncertainty.
Failure to Detect	Even when site investigation work is executed competently and in accordance with the appropriate Australian guidance, such as the National Environment Protection (Assessment of Site Contamination) Amendment Measure ('the NEPM'), it must be recognised that certain conditions present especially difficult target analyte detection problems. Such conditions may include, but are not limited to, complex geological settings, unusual or generally poorly understood behaviour and fate characteristics of certain substances, complex, discontinuous, random, or heterogeneous distributions of existing target analytes, physical impediments to investigation imposed by the location of services, structures and other man-made objects, and the inherent limitations of assessment technologies.
Limitations of Information	The effectiveness of any site investigation may be compromised by limitations or defects in the information used to define the objectives and scope of the investigation, including inability to obtain information concerning historic site uses or prior site assessment activities despite the efforts of the user and assessor to obtain such information.
Chemical Analysis Error	Chemical testing methods have inherent uncertainties and limitations. Senversa routinely seeks to require the laboratory to report any potential or actual problems experienced, or non-routine events which may have occurred during the testing, so that such problems can be considered in evaluating the data.
Level of Assessment	The investigation herein should not be considered to be an exhaustive assessment of environmental conditions on a property. There is a point at which the effort of information obtained and the time required to obtain it outweigh the benefit of the information gained and, in the context of private transactions and contractual responsibilities, may become a material detriment to the orderly conduct of business. If the presence of target analytes is confirmed on a property, the extent of further assessment is a function of the degree of confidence required and the degree of uncertainty acceptable in relation to the objectives of the assessment.
Comparison with Subsequent Inquiry	The justification and adequacy of the investigation findings in light of the findings of a subsequent inquiry should be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made.
Data Useability	Investigation data generally only represent the site conditions at the time the data were generated. Therefore, the usability of data collected as part of this investigation may have a finite lifetime depending on the application and use being made of the data. In all respects, a future reader of this report should evaluate whether previously generated data are appropriate for any subsequent use beyond the original purpose for which they were collected, or are otherwise subject to lifetime limits imposed by other laws, regulations or regulatory policies.
Nature of Advice	The investigation works herein are intended to develop and present sound, scientifically valid data concerning actual site conditions. Senversa does not seek or purport to provide legal or business advice.



Figures

Figure 1: Site Location

Figure 2: Site Layout



Path: S:\01_Jobs\1.NSW_Jobs\17514_Ingham_Badgerys_Creek_ACM_REMEDIATION\17514_018.aprx



Legend
 Cadastre
 Site Boundary

Notes:
 Aerial Imagery © Nearmap

Created:	E. Marha	Date:	7/11/2023
Reviewed:	L. Wadsworth	Revision:	0
Approved:	N. Lukeman	Scale:	1:15,000 (A3)
File:	S17514_018_F001		

0 75 150 300 450 600 750 Metres
 Coordinate System: GDA 1994 MGA Zone 56

Figure No:	1
Title:	Site Location
Project:	Environmental Report
Location:	475 Badgerys Creek Road, Badgerys Creek, NSW 2555
Client:	Ingham Rural Property Group



Path: S:\01_Jobs\1.NSW_Jobs\1.NSW_Jobs\S17514_Ingham_Badgerys_Creek_ACM_REMEDIATION\MXDs\1_Working\MXD\S17514_018.aprx



Legend	
	Approximate Farm Extent
	Stockpiles
	Cadastre
	Site Boundary

Notes:
Aerial Imagery © Nearmap

Created:	E. Marha	Date:	7/11/2023
Reviewed:	L. Wadsworth	Revision:	0
Approved:	N. Lukeman	Scale:	1:8,000 (A3)
File:	S17514_018_F002		

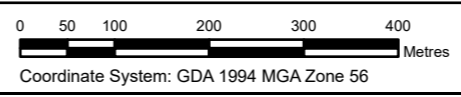


Figure No:	2
Title:	Site Layout Plan
Project:	Environmental Report
Location:	475 Badgerys Creek Road, Badgerys Creek, NSW 2555
Client:	Ingham Rural Property Group



Appendix A: Unexpected Finds Procedure



Appendix A: Unexpected Finds Protocol

This unexpected find procedure (UFP) is provided to manage potential risks posed by unexpected finds (considered most likely to comprise asbestos containing material) in accordance with recommendations presented in the Asbestos Management Plan (AMP) for the property located at 475 Badgerys Creek Road, Bradfield NSW 2556 (the site), also identified as Lot 100 in Deposited Plan (DP)1287207.

Unexpected finds may become an issue if disturbed. This plan relates to the measures required should impacted materials be discovered.



Insert 1: Site Layout

Responsible Persons

Table 1: Roles and Responsibilities

Company	Role	Responsibilities
IPG	Site Owner	Overall responsibility for workplace health and safety (WHS) and informing site users of the applicability of any plans relating to the site (note this may be delegated to Superintendent or others as required). Responsible for reporting issues/incidents to relevant authority as necessary (e.g. NSW EPA, LGA, SafeWork)
TBC	Principal Contractor	Principal Contractor for civil and earthworks. Responsible for ensuring all site workers are trained in the application of the UFP and able to confidently implement the procedures within.
Senversa	Environmental Consultant (EC)	<u>Point of contact for unexpected finds.</u> Soil sampling for validation and/or off-site disposal. Provision of visual clearance certificates for non-friable asbestos removal work.



Definitions of Unexpected Finds

An unexpected find may include:

- Buried asbestos containing material (ACM) or ACM found at the surface of the site.
- ACM may be **bonded** or **friable** and may take many forms (e.g., concrete tiles, vinyl tiles, lagging, pipes, roof tiles, etc.).
- **Bonded** asbestos is defined as ‘material containing asbestos that is not friable asbestos. Including materials containing asbestos fibres reinforced with a bonding compound’, which therefore includes bonded fibre cement products.
- **Friable** asbestos is defined as ‘material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos.
- Discoloured and/or odorous soils.
- Discoloured and/or odorous groundwater/liquid seepage.
- Buried waste materials e.g., general refuse, animal waste (carcasses, eggs), contaminated waste, etc.
- Septic tanks.
- Underground fuel storage tanks and associated fill points, pipes.
- Any unanticipated archaeological discovery e.g., aboriginal relicts or items of significance.
- Chicken or animal burial pits.

Examples of items which may be encountered are displayed below:

		
<p>Asbestos Fragment</p>	<p>Asbestos Fragments</p>	<p>Stained Soil</p>
		
<p>Underground Fuel Tank</p>	<p>Fuel Lines</p>	<p>Asbestos pipes</p>



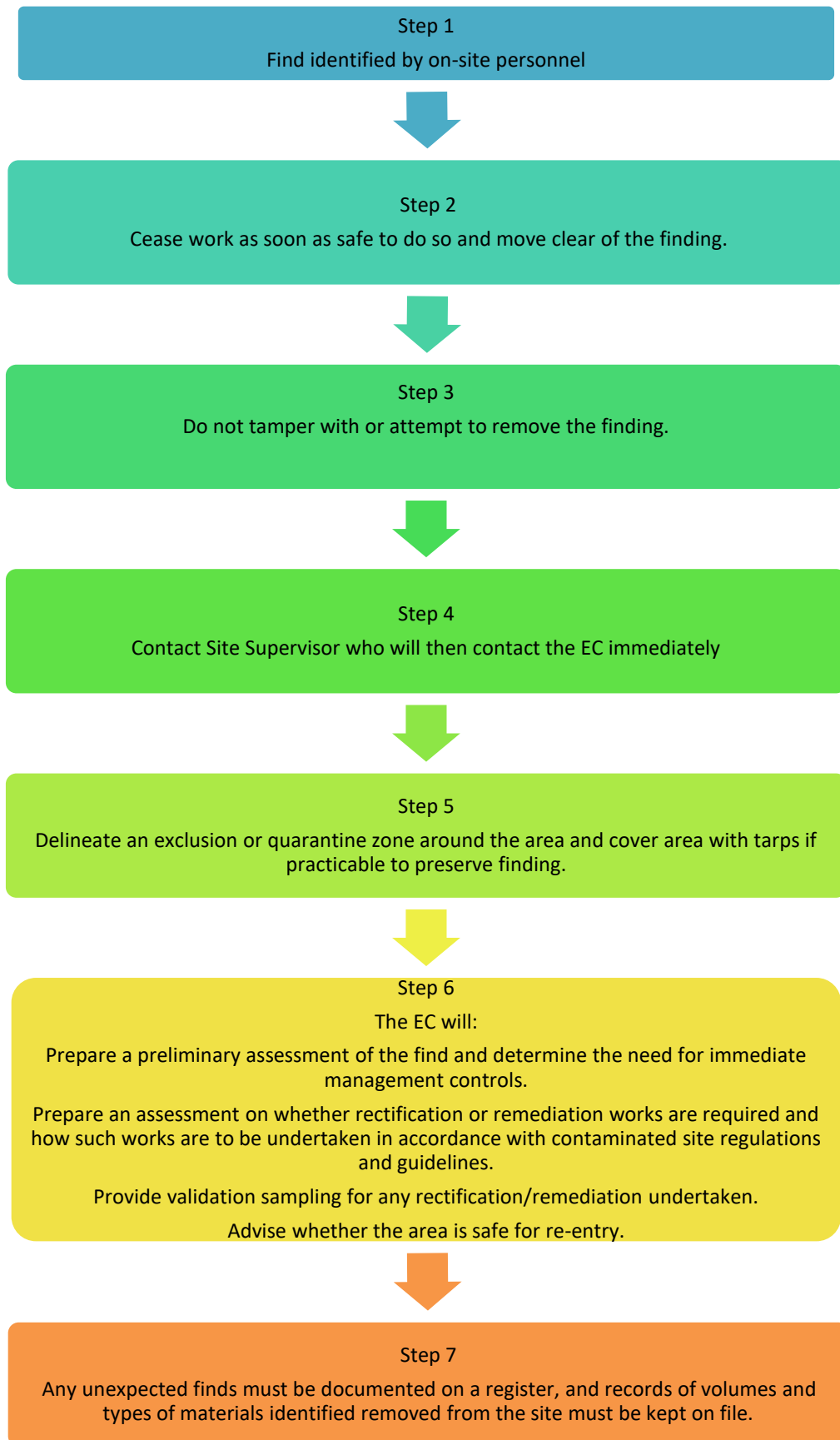
Procedure to be followed in case of an Unexpected Find

Should an unexpected find be encountered during the works, the following procedure (Steps 1-7) should be followed:

1. Find identified by on-site personnel.
2. Cease work as soon as safe to do so and move clear of the finding.
3. Do not tamper or attempt to remove the finding.
4. Contact Site Supervisor who will then contact the EC immediately.
5. Delineate an exclusion or quarantine zone around the area and cover area with tarps if practicable to preserve finding.
6. The EC will:
 - Prepare a preliminary assessment of the find and determine the need for immediate management controls.
 - Prepare an assessment on whether rectification or remediation works are required and how such works are to be undertaken in accordance with contaminated site regulations and guidelines.
 - Provide validation sampling for any rectification/remediation undertaken.
 - Advise whether the area is safe for re-entry.
7. Any unexpected finds must be documented on a register, and records of volumes and types of materials identified removed from the site must be kept on file.



Unexpected Find Procedure Flowchart





Example Unexpected Finds Register

Unexpected Find Number	Date encountered	Location	Type	EC Contacted
UF01			Spill/excavation of suspect material/underground tank/other	Yes/No

Senversa Pty Ltd

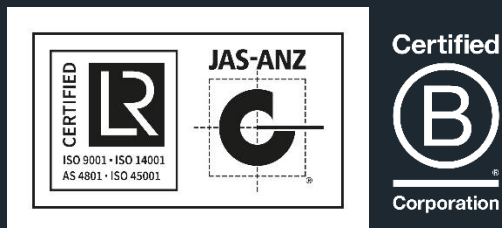
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