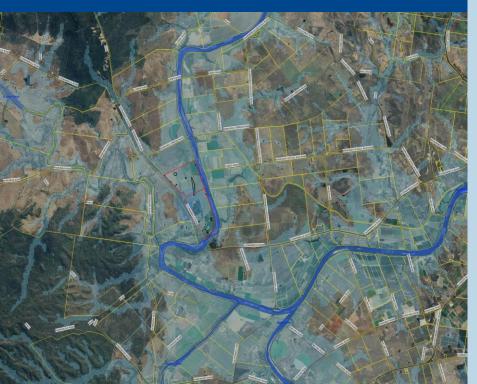
## **PRELIMINARY SITE INVESTIGATION**

50 MOISSET STREET QUEANBEYAN, NSW



agon

ENVIRONMENTAL

| Prepared for: | Lockbridge       |
|---------------|------------------|
| Date:         | 18 November 2024 |
| Reference:    | JC1605_PSI.01    |
| Version:      | Issue            |

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## **TABLE OF CONTENTS**

| AGO | ON DOC  | UMENT CONTROLiii                 |
|-----|---------|----------------------------------|
| EXE | CUTIVE  | SUMMARYiv                        |
| 1.0 | INT     | RODUCTION                        |
|     | 1.1     | Background1                      |
|     | 1.2     | Objective                        |
|     | 1.3     | Scope of Work                    |
|     | 1.4     | Legislative Framework 2          |
| 2.0 | SIT     | E DETAILS                        |
|     | 2.1     | Site Identification              |
|     | 2.2     | Physical Setting                 |
|     | 2.3     | Surrounding Land Use 4           |
|     | 2.4     | Site Geology 4                   |
|     | 2.5     | Site Hydrology and Hydrogeology4 |
|     | 2.6     | Site Inspection 4                |
| 3.0 | HIS     | TORICAL INFORMATION              |
|     | 3.1     | Previous Investigations          |
|     | 3.2     | Historical Aerial Imagery        |
|     | 3.3     | Business Directory Records       |
|     | 3.4     | Public Records                   |
|     | 3.5     | NSW EPA Contaminated Land Search |
|     | 3.6     | Leaseholder Interview            |
|     | 3.7     | PCAs and CSM7                    |
| 4.0 | CO      | NCLUSION9                        |
| 5.0 | LIN     | IITATIONS OF THIS REPORT         |
| 6.0 | REF     | ERENCES                          |
| APF | ENDIX   | A: SITE INSPECTIONA              |
| APF | ENDIX I | B: AERIAL IMAGERYB               |
| APF | ENDIX   | C: UNEXPECTED FINDS PROTOCOLC    |

#### TABLES

| Table 1: | Site Identification | 3 |
|----------|---------------------|---|
|          |                     |   |



| Table 2: | Surrounding Land Use      | 4 |
|----------|---------------------------|---|
| Table 3: | Historical Aerial Imagery | 5 |



## AGON DOCUMENT CONTROL

| Report Title  |        | Project Reference |                             |          |
|---|--------|-------------------|-----------------------------|----------|
| Preliminary Site Investigation<br>50 Morisset Street Queanbeyan, NSW. |        | JC1605            |                             |          |
| Written   |        |                   | Approved                    |          |
| <b>Kurt Lockwood</b><br>Environmental Sciel                           | ntist  |                   | John O'Brien<br>ACT Manager |          |
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| 01  | Issue  | 18/11/2024        | KL                          | OL       |

| Rev No | Copies       | Recipient  |
|--------|--------------|------------|
| 01     | 1 electronic | Lockbridge |



## **EXECUTIVE SUMMARY**

Agon was engaged by Lockbridge to prepare a Preliminary Site Investigation (PSI) for the property located at 50 Morisset Street in Queanbeyan, NSW (the site). Agon understand a Development Application (DA) has been lodged for the development of an apartment complex (with ground floor car parking and commercial tenancies) and the Queanbeyan Palerang Regional Council (QPRC) require a PSI to be completed inclusive of an Unexpected Finds Protocol (UFP).

In summary, the site had been developed with a building by the mid 1940's and by the mid 1950's six buildings have been built within the site area. In the mid 1970's all buildings were removed from the site, whereby the site then remained vacant up until the late 1990's when a carpark was built. The exact use of these historical buildings is unknown but likely were for residential purposes.

In summary, the site had been developed with a building by the mid 1940's and by the mid 1950's six buildings have been built within the site area. In the mid 1970's all buildings were removed from the site. The site remained vacant up until the late 1990's when a carpark was built. The exact use of these historical buildings is unknown but likely were for residential purposes.

Two PCAs were identified, being the presence of uncontrolled fill and the potential groundwater impacts from offsite sources, these PCAs were evaluated via a CSM. No complete contaminant source-pathway-receptor linkages were identified however there remains a number of uncertainties. On this basis Agon conclude the site to be suitable, from a contaminated land perspective, for the proposed development of the apartment complex subject to the following recommendations:

- A site-specific UFP be prepared to support any excavation activities at the site. An example UFP has been included as **Appendix C**. If evidence of contamination is encountered in any fill or natural soil (i.e. that triggers an unexpected find) a soil assessment of the site may be warranted.
- If basement carparking (or sensitive ground floor uses such as residential/childcare) is considered, Agon recommend the completion of a groundwater assessment to verify the quality of groundwater at the site noting the potential offsite sources of contamination.

| Elements                                | Comment                      | Compliant |
|---|------------------------------|-----------|
| Purpose of Investigation                | Completed, refer Section 1.3 | Yes       |
| Site History                            | Completed, refer Section 3   | Yes       |
| Potentially Contaminating<br>Activities | Complete, refer Section 3.7  | Yes       |
| Potentially Contaminated<br>Media       | Complete, refer Section 3.7  | Yes       |
| Site condition and surround area        | Complete, refer Section 2    | Yes       |
| Geological & hydrogeological setting    | Complete, refer Section 2    | Yes       |
| Potential contaminants of<br>concern    | Complete, refer Section 3.7  | Yes       |
| Conceptual Site Model                   | Complete, refer Section 3.7  | Yes       |

A compliance checklist has been against NSW EPA (2020) Contaminated Land Guidelines Guidance-Consultants Reporting on Contaminated Land for undertaking preliminary site is provided as follows:



| Data Gaps       | Complete, refer Section 3.7 | Yes |
|-----------------|-----------------------------|-----|
| Recommendations | Complete, refer Section 4.0 | Yes |



## **1.0 INTRODUCTION**

### 1.1 Background

Agon was engaged by Lockbridge to prepare a Preliminary Site Investigation (PSI) for the property located at 50 Morisset Street in Queanbeyan, NSW (the site). Agon understand a Development Application (DA) has been lodged for the development of an apartment complex (with ground floor car parking and commercial tenancies) and the Queanbeyan Palerang Regional Council (QPRC) require a PSI to be completed inclusive of an Unexpected Finds Protocol (UFP).

Accordingly, this PSI has been prepared to comply with *NSW EPA (2020) Contaminated Land Guidelines: Consultants Reporting on Contaminated Land* which states the following requirements for reporting a PSI:

- the purpose of the investigation
- the site history
- past and present potentially contaminating activities (on- and off-site sources)
- potentially contaminated media
- the condition of the site and surrounding environment
- the geological and hydrogeological setting
- a preliminary assessment of site contamination and contaminants of potential concern
- a conceptual site model
- identification of data gaps in the assessment of site contamination
- recommendations for further investigation.

In support of the PSI Agon have completed a Lotsearch (reference LS057089 EP). The Lotsearch report has been referenced where appropriate, if requested a copy of the Lotsearch can be made available.





## **1.2** Objective

The objective of this PSI is to identify potentially contaminating activities (PCAs) which may have occurred at the site, provide an initial assessment of potential risks to human health and the environment and provide a conclusion as to the suitability of the site for the proposed development of an apartment complex.

## **1.3** Scope of Work

The scope of work for this investigation comprised:

- Completion of a Lotsearch Report which summarises the site identification details, zoning, local geology and hydrogeology, historical aerial imagery, historical business directories, and NSW EPA contaminated land searches.
- A review of property details and a description of the features of this site.
- A review of current zoning and land use on and surrounding the site.
- A review of regional geology and hydrogeology.
- An inspection of the site.
- A review of historical aerial photographs of the site and surrounding area.
- A review of NSW EPA contaminated land list
- A review of publicly available information.
- Review of the previous environmental assessment reports for the site.
- Compilation of this information presented in this PSI report.

#### **1.4 Legislative Framework**

The PSI has been prepared in general accordance with the guidelines endorsed by the NSW Environment Protection Authority (EPA) including but not limited to:

- National Environment Management (Assessment of Site Contamination) Measure 1999 (amended 2013) (the NEPM).
- NSW Environment Protection Authority (EPA), Contaminated Land Guidelines: Consultants Reporting on Contaminated Land, 2020.
- Queanbeyan-Palerang Regional Local Environmental Plan 2022.



## 2.0 SITE DETAILS

## 2.1 Site Identification

#### Table 1: Site Identification

| Site Identification   | Details   |
|-----------------------|---|
| Site Address          | 50 Morisset Street, Queanbeyan, NSW.  |
| Allotment Description | Lot 1/Deposited Plan (DP) 124593; Lot 1/DP817801; Lot 2/DP349095;<br>Lot7/9/DP758862; Lot A/DP162373. |
| Land Zoning           | E2: COMMERCIAL CENTRE ZONE.   |
| Current Land Use      | Car park.   |
| Proposed Land Use     | Multi storey apartment complex with ground floor parking and commercial tenancies                     |
| Total Area            | 5826 m <sup>2</sup> or thereabouts.   |

## 2.2 Physical Setting

The site is situated In Queanbeyan and is bound by residential properties to the north, Collett Street followed by residential properties to the east, Morisset Street followed by The Mills House Café and carpark to the south and a Kmart department store and car park to the west.



Figure 2:Site PlanSource:ACTmapi (2022)



#### **Surrounding Land Use** 2.3

The immediate surrounding land uses to the site are summarised below in and Table 2.

| Table 2. Surrounding Land Use |   |  |
|-------------------------------|---|--|
| Direction                     | Land Use  |  |
| North                         | Residential properties, a lane way and commercial complexes primarily used for business/services, including Woolworths.   |  |
| East                          | Collett Street followed by residential properties and a carpark.  |  |
| South                         | Morisset Street followed commercial complexes primarily used for business/services, including the Mill House Café, Music by the River and a carpark. commercial complexes primarily used for business/services, including Woolworths. |  |
| West                          | Commercial complexes primarily used for business/services, including Kmart, Woolworths and a carpark and laneway.   |  |

Surrounding Land Lise Table 2

#### **Site Geology** 2.4

Agon reviewed Lotsearch Report (LS057089 EP) which indicates the soil in the vicinity of the site is likely to comprise sediments of the Abercrombie Formation, which comprise brown and buff to grey, thin to thick bedded, fine to coarse grained mica quartz (feldspar) sandstone, interbedded with laminated siltstone and mudstone. Sporadic chert-rich units.

#### 2.5 Site Hydrology and Hydrogeology

Surface water in the vicinity of the site is expected to infiltrate into the local soils or drain to local stormwater infrastructure prior to being discharged to the nearest surface water body, Queanbeyan River (located about 140m to the southeast of the site). Some local infiltration may occur via leaks in concrete slab or stormwater infrastructure.

Review of the LS057089 EP, indicates the groundwater beneath the site is present in fractured or fissured extensive aquifers of low to moderate productivity. Groundwater monitoring bore GW417522 (NSW Bore ID) is located 142m southwest of the site.

#### 2.6 Site Inspection

An inspection of the site was undertaken by Agon on 11<sup>th</sup> June 2024 with a photolog presented in Appendix A. The site is used as the Riverside Plaza North Car park. The car park has two entry/exit locations from Morisset Street and Collett Street, refer Photographs 1-5, Appendix A.



## **3.0 HISTORICAL INFORMATION**

#### **3.1 Previous Investigations**

Agon has reviewed previous background reports for the site including:

• ACT Geotechnical Engineers (2023) Proposed Apartment Development 50 Morisset Street, Queanbeyan, NSW. Geotechnical Investigation Report.

The key findings of the report are summarised as follows:

- Four augured boreholes (BH1-BH4) were advanced to 8.0mbgl on the site for soil classification purposes.
- The investigation identified uncontrolled fill in all four boreholes to depths ranging between 0.25mbgl 0.7mbgl, which was logged to be comprised of sandy gravels and clayey sands. No anthropogenic inclusions were identified in the fill material.
- Alluvial soils were identified from (BH1-BH4) at depths ranging from 0.25mbgl 0.7mbgl to 8.0mbgl, which were logged to be comprised of clayey sands, sandy gravels to gravelly sands.
- Groundwater was identified in (BH1-BH4) at depths between 7.0mbgl 7.5mbgl.

### 3.2 Historical Aerial Imagery

Aerial photographs were reviewed from 1944 to 2024 to investigate the former land uses at the site. Selected aerial extracts from the Lotsearch are provided in **Appendix B**, with approximate site locations outlined in Purple.

#### Table 3: Historical Aerial Imagery

| Year  | Description  |
|-------|--|
| 1944  | <ul> <li>Site: The site appears to have four small building located in the eastern portion and two in the southwestern portion of the site.</li> <li>Surrounds: The surrounding areas have been developed with roads, and buildings which appear to possibly be used for residential purposes.</li> </ul>  |
| 1950s | Site: Continued development of the site area is evident.<br>Surrounds: Continued development of the surrounding areas is evident.  |
| 1960s | Site: No significant change.<br>Surrounds: No significant change.  |
| 1970s | Site: All buildings have been removed from the site.<br>Surrounds: Further development of the surrounds is evident. A large complex and car parking area has<br>been built on the adjacent block to the west of the site, in addition with a large building in the surrounds to<br>the northwest (1976).   |
| 1980s | <b>Site</b> : No significant change.<br><b>Surrounds:</b> Ongoing development of the surrounding areas is evident. A large complex has been built to the northwest of the site (1985).   |
| 1990s | <b>Site</b> : A carpark has been built on the site (1197).<br><b>Surrounds:</b> The Riverside Plaza is evident in the surrounds to the south. A roundabout is evident at the intersection of Morisset Street and Collett Streets adjacent with the southeast corner of the site (1992). The Riverside Plaza has been extended in size to the southwest of the site (1997). |
| 2000s | Site: No significant change.   |



| Year  | Description  |
|-------|--|
|       | <b>Surrounds:</b> A portion of the building adjacent with Morisset Street and Crawford Streets in the surrounds to the southwest has been removed (2002). A small building has been removed and a large car park is evident in the surrounds to the northeast (2005). Eight buildings are evident in the surrounds to the northwest adjacent with a car park (2009). |
| 2010s | Site: No significant changes.<br>Surrounds: A building has been removed and a new building is evident in the surrounds to the northwest of the site (2012). An area of open space appears to have been redeveloped as an open space area adjacent with the Queanbeyan River to the southeast of the site (2017).   |
| 2020s | Site: No significant changes.<br>Surrounds: No significant change.   |

In summary, the site had been developed with a building by the mid 1940's and by the mid 1950's six buildings have been built within the site area. In the mid 1970's all buildings were removed from the site. The site remained vacant up until the late 1990's when a carpark was built. The exact use of these buildings is unknown but likely were for residential purposes.

The surrounding areas had undergone early stages of development by the early 1940s, with continued development evident up until the late 1990's much to the current extent of the Queanbeyan central business district.

### **3.3 Business Directory Records**

The Lotsearch includes a register of business at and in proximity to the site between 1950-present. In general, business within 100m of the site included retail, professional services typical of an urban setting. However, there were a number of potential offsite sources of contamination including service stations, dry cleaners and motor garages >100m from the site.

In addition, NSW EPA issued the Queanbeyan City Council a number clean up notices (between 2004 and 2006) relating to the sewage reticulation system at (and in proximity to the site) and release of untreated sewerage.

### 3.4 Public Records

National Library of Australia records (NLA) accessed via <u>https://trove.nla.gov.au/</u> were reviewed by Agon as supplementary site history information. No information could be found for the site.

### 3.5 NSW EPA Contaminated Land Search.

A search of the NSW EPA Contaminated Land List was undertaken in LS057089 EP to identify any site contamination notifications or records. In summary the site has no contaminated land records of notice. However, five nearby properties are recorded on the NSW Contaminated Land List including:

- Woolworths Queanbeyan Service Station (Service Station) 110m southwest of site area.
- Bill Lilley Automotive (Service Station) 173m southwest of site area.
- 95 Crawford Street Queanbeyan (Chemical Industry) 509m northwest of site area.
- Caltex Queanbeyan Service Station (Service Station) 783m east of site area.



• Former BP Queanbeyan (Service Station) – 902m northwest of site area.

### 3.6 Leaseholder Interview

Not applicable, the site has been vacant since the 1970s.

## 3.7 PCAs and CSM

A Conceptual Site Model (CSM) provides the framework for evaluating contaminant source-pathwayreceptor linkages as a result of PCAs which may have occurred at the site. Any linkages may be presented as complete or incomplete thereby establishing a potential exposure pathway that may, depending on the nature of the proposed land use, warrant further assessment. The CSM process is iterative and must be refined throughout the site assessment process based on any available environmental or site historical or field information.

On the basis of the site history, Agon have compiled the identified PCAs through a CSM to determine if there are any complete contaminant source-pathway-receptor linkages and is presented in Table 4 below:

| Table 4: PCAs and CSM                        |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| РСА  | Source/CoCs  | Receptor                               | Pathway  |  |  |  |  |
| ONSITE                                       |  |  |  |  |  |  |  |
| PCA01<br>Fill of Unknown<br>Origin           | The site contains fill<br>of unknown origin<br>(identified in the<br>geotechnical<br>investigation), this<br>may be impacted<br>with a range of<br>contaminants<br>and/or demolition<br>wastes | Soil<br>Workers<br>Future<br>Occupants | <ul> <li>Migration and Exposure Pathway incomplete.</li> <li>Pathway negated by: <ul> <li>No evidence of anthropogenic inclusions within the fill at the site during the geotechnical investigation (refer Section 3.1).</li> <li>Interaction of fill will likely occur during redevelopment but can be mitigated by the implementation of an Unexpected Finds Protocol (UFP) and NSW Waste Classification Guidelines.</li> </ul> </li> </ul>  |  |  |  |  |
| OFFISTE                                      |  |  |  |  |  |  |  |
| PCA02<br>Potential<br>Groundwater<br>Impacts | VOCs<br>Hydrocarbons<br>Metals<br>Solvents   | Soil<br>Groundwater                    | The site resides within an urban setting with a number<br>of offsite sources identified including dry cleaners,<br>laundries, general industry and service stations.<br>However, the proposed building has ground floor<br>carparking and commercial tenancies which meets the<br>definition of a commercial/industrial land uses setting<br>under the ASC (2013) NEPM (i.e. HIL D).<br>On this basis Agon do not consider there to be a<br>complete contaminant source pathway receptor<br>linkage. |  |  |  |  |

In summary, the investigation undertaken by Agon has assessed the identified PCAs with no discernible complete contaminant source-pathway-receptor-linkages identified in the CSM. However there remains the following uncertainties:

 PCA01 Fill of Unknown Origin – The quality of fill at the site is unknown and may contain residual demolition wastes from the former buildings at the site (and/or other unexpected finds of contamination), this uncertainty can be managed via the implementation of an UFP and NSW Waste Classification Guidelines. If evidence of contamination is encountered in any fill or natural soil (i.e. that triggers an unexpected find) a Detailed Site Investigation (DSI) may be required to determine the nature and source of the contamination.



• PCA02 Potential Groundwater Impacts – The quality of the groundwater at the site is unknown and may be impacted by offsite sources given the urban setting of the site. However, the proposed building will have ground floor carparking and commercial tenancies with no basement carpark (i.e. no sensitive receptors).



## 4.0 CONCLUSION

In summary, the site had been developed with a building by the mid 1940's and by the mid 1950's six buildings have been built within the site area. In the mid 1970's all buildings were removed from the site. The site remained vacant up until the late 1990's when a carpark was built. The exact use of these historical buildings is unknown but likely were for residential purposes.

Two PCAs were identified, being the presence of uncontrolled fill and the potential groundwater impacts from offsite sources, these PCAs were evaluated via a CSM. No complete contaminant source-pathway-receptor linkages were identified however there remains a number of uncertainties. On this basis Agon conclude the site to be suitable, from a contaminated land perspective, for the proposed development of the apartment complex subject to the following recommendations:

- A site-specific UFP be prepared to support any excavation activities at the site. An example UFP has been included as **Appendix C**. If evidence of contamination is encountered in any fill or natural soil (i.e. that triggers an unexpected find) a soil assessment of the site may be warranted.
- If basement carparking (or sensitive ground floor uses such as residential/childcare) is considered, Agon recommend the completion of a groundwater assessment to verify the quality of groundwater at the site noting the potential offsite sources of contamination.



## **5.0 LIMITATIONS OF THIS REPORT**

All and any Services proposed by Agon to the Client were subject to the Terms and Conditions listed in Agon's **QFB-008 Consultancy Agreement** (accessible at <u>https://agonenviro.com.au/documents/</u>). Unless otherwise expressly agreed to in writing and signed by Agon, Agon does not agree to any alternative terms or variation of these terms if subsequently proposed by the Client. The Services were carried out in accordance with the current and relevant industry standards of testing, interpretation and analysis. The Services were carried out in accordance with Commonwealth, State, Territory or Government legislation, regulations and/or guidelines. The Client was deemed to have accepted these Terms when the Client signed the Proposal (where indicated) or when the Company commenced the Services at the request (written or otherwise) of the Client.

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## 6.0 **REFERENCES**

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**NEPC** - National Environment Protection Council. 2013. Amended National Environment Protection Measures Schedule B series. Canberra : Department of Sustainability, Environment, Water, Population and Communities, 2013.



## **APPENDIX A: SITE INSPECTION**



Photograph 1: Car park entry/exit fronting Morisset Street.



Photograph 2: Eastern portion of car park facing south from Collet Street.



Photograph 3: Central portion of car park facing southwest.



Photograph 4: Western portion of car park facing to the southeast.



**Photograph 5:** Southern portion of car park facing to the northwest.



Photograph 5: Car park entry/exit fronting Collett Street.



## **APPENDIX B: AERIAL IMAGERY**







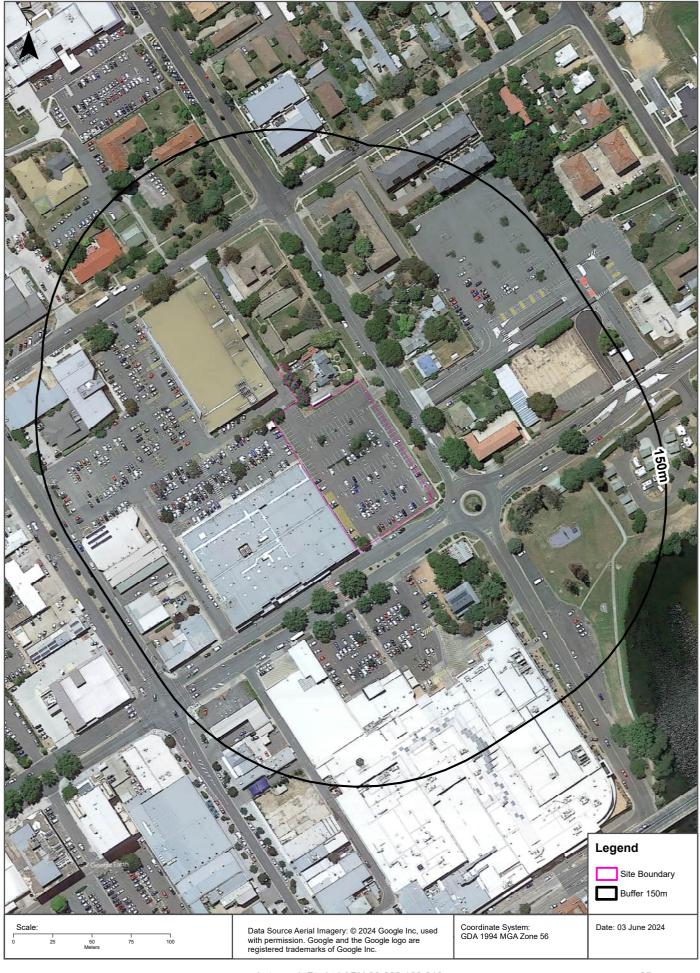


Aerial Imagery 2017 50 Morisset Street, Queanbeyan, NSW 2620

















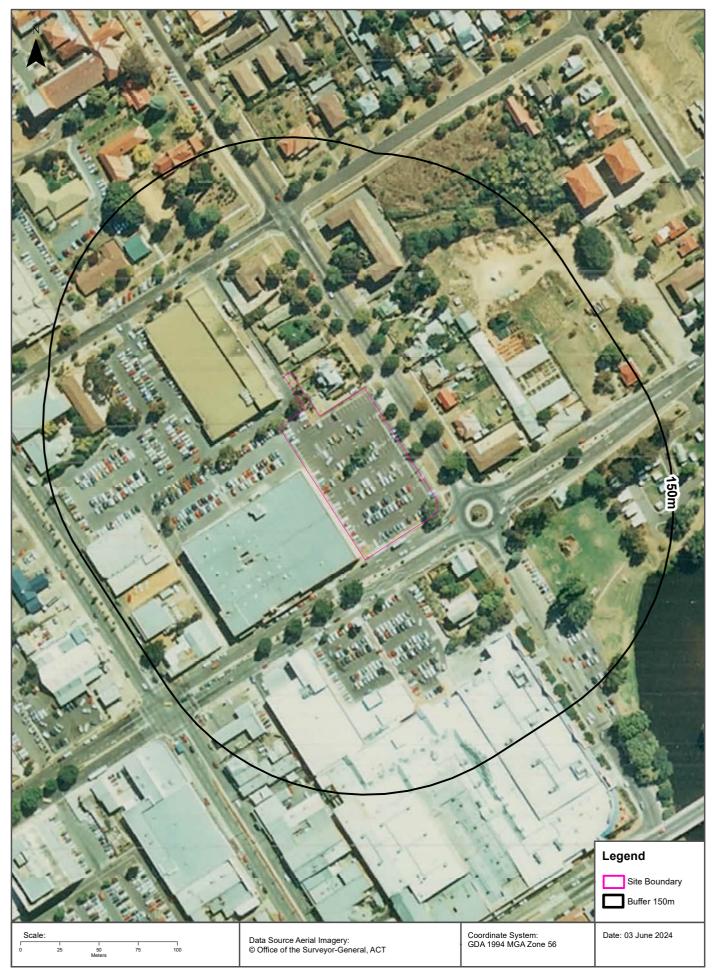




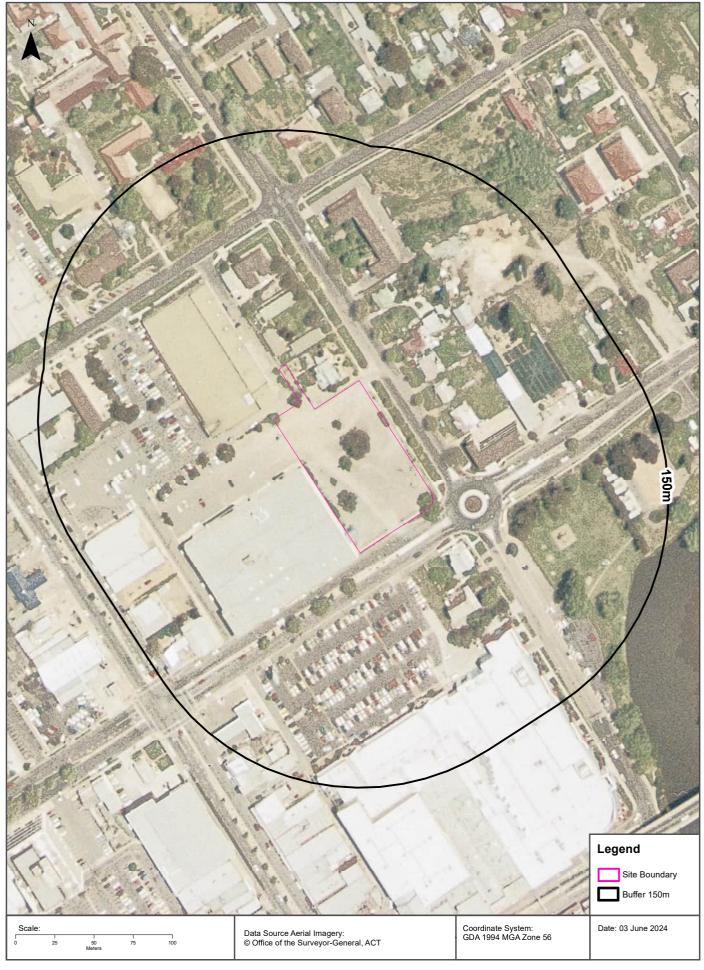




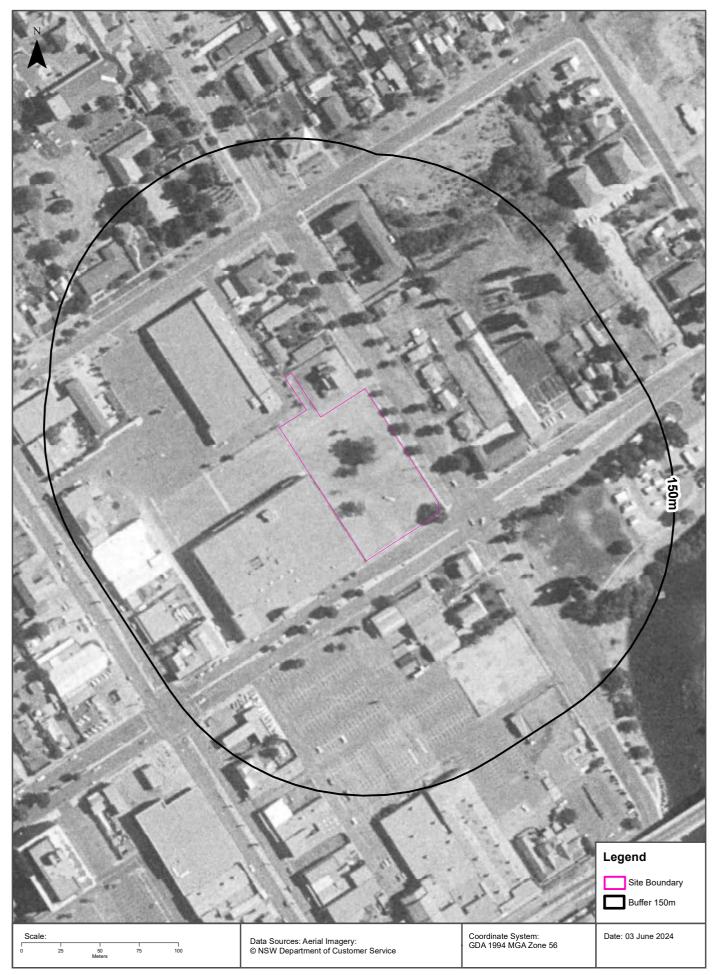












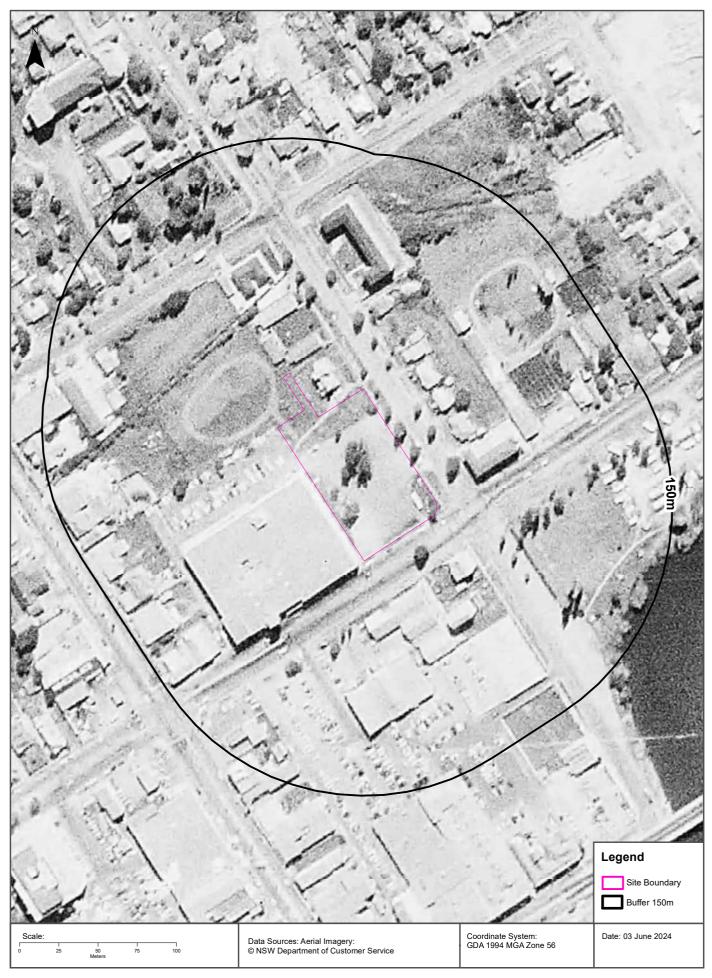




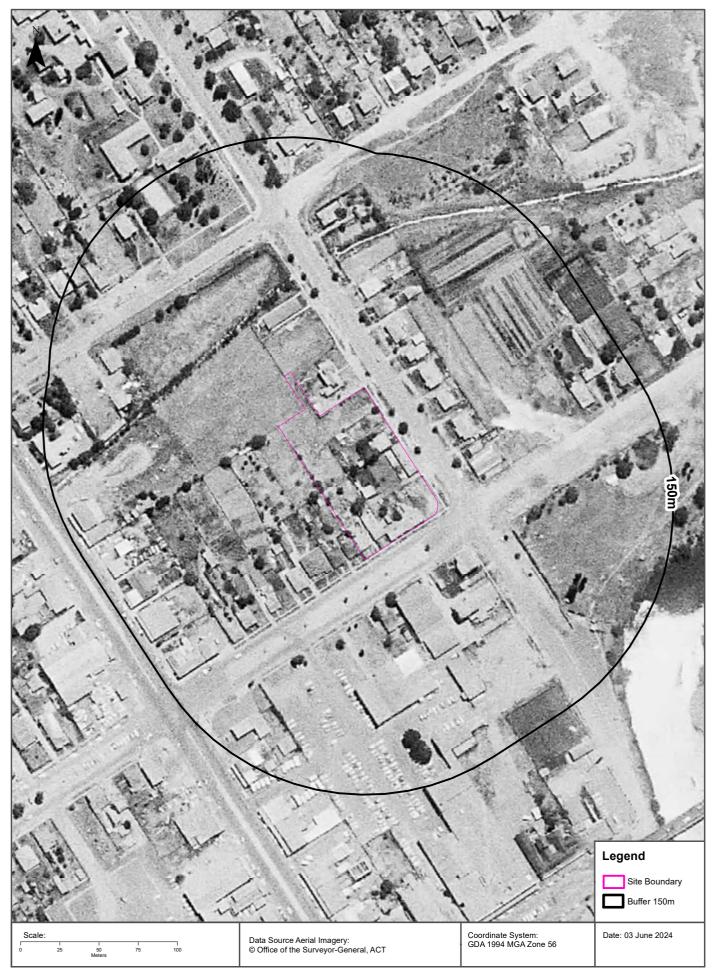






























## **APPENDIX C: UNEXPECTED FINDS PROTOCOL**

As a general statement, environmental assessments are based on results from a limited number of test points or a desktop review of site history, actual conditions may vary from those expected during bulk excavations. These unexpected finds may include soils that are observed to have a visual impact (staining, discoloration), olfactory impact (odour) and/or may be impacted with anthropogenic inclusions (demolition waste, asbestos etc.).

Typical types of contamination that may be encountered during bulk excavations works are shown below.



Photograph 1 Ash Layer



Photograph 2 Stained Soils





#### Photograph 3 Bonded Asbestos

#### Photograph 4 Demolition Wastes in Soils



It is the responsibility of the project manager to ensure that all personnel on site are inducted to the sitespecific UFP. Where applicable, additional training to deal with unexpected finds may be required, for example the Asbestos Awareness Course which is mandatory for the construction industry.

In the event that unexpected finds of potential contamination are identified during works, the following procedure should be adopted.

| Unexpected Finds Protocol | Unex | pected | <b>Finds</b> | Protocol |
|---------------------------|------|--------|--------------|----------|
|---------------------------|------|--------|--------------|----------|

| Site Identification  | Responsibility                |  |
|--|-------------------------------|--|
| AWARENESS<br>All site workers involved with intrusive works are to be inducted into the UFP.   |                               |  |
| UNEXPECTED FIND ENCOUNTERED  | Contractor                    |  |
| 1. STOP WORK   |                               |  |
| All excavation in the immediate area to cease to minimise further disturbance of ar contaminated soil which may increase an exposure risk to nearby workers.   | ιγ                            |  |
| 2. MAKE SAFE   |                               |  |
| Following cessation of nearby works, the area should be made safe by the implementatic<br>of an 'EXCLUSION AREA'. This must include physical demarcation using safety cones, hazar<br>tape (or similar) at a minimum. If a larger area of contamination is identified, where worl<br>will occur over longer timeframes, the area should be protected by fencing. Site workers t<br>be notified and advised not to further disturb the Unexpected Find. | rd<br><s< td=""></s<>         |  |
| If safe to do so, the Unexpected Find/s may be covered with clean soil to limit the risk of exposure. This may be discussed with the Environmental Consultant on a case-by-case basis.   |                               |  |
| 3. NOTIFY  |                               |  |
| Notify the Leaseholder or similarly responsible persons who will contact the Environmental Consultant to inspect the Unexpected Find.  |                               |  |
| ASSESSMENT OF THE FIND   |                               |  |
| Environmental Consultant to undertake an assessment to determine the nature and extent of the Unexpected Find, including any interim management measures.  | Consultant                    |  |
| <b>NOTIFICATION</b><br>Notify the relevant regulatory authorities of the find.   | Project Manager<br>Contractor |  |
|  | Environmental<br>Consultant   |  |
| REMEDIATION  | Contractor                    |  |
| Manage, remove, or treat the contamination in accordance with the applicable EPA<br>regulations, laws, guidelines, and industry practice in accordance with advice from the<br>Environmental Consultant.   | Environmental<br>Consultant   |  |
| If the management approach includes off-site disposal of contaminated soil, assessment of th<br>Unexpected Find in accordance with NSW EPA Guidelines.   | e                             |  |
| VALIDATION   | Environmental                 |  |
| Validation demonstrating the successful removal or management of the Unexpected Find will<br>be required. The Environmental Consultant to advise what may be appropriate depending on<br>the nature of the Find. The identification, assessment, management and validation of all<br>Unexpected Finds must be documented by the Environmental Consultant in the form of a<br>validation report which must be submitted to the Council.                 | Consultant                    |  |
| RESUME INTRUSIVE WORK  | Contractor                    |  |
| Following successful validation, or as advised by the Environmental Consultant (and potentially the EPA), excavation works can resume subject to the ongoing implementation of the UFP.  |                               |  |