Information sheet for environmental audits and preliminary risk screen assessments (PRSAs)

Publication 2009 June 2021

Victoria's audit system

An environmental audit system has operated in Victoria since 1989. The *Environment Protection Act 2017* (the Act) provides for the appointment of environmental auditors. It also provides for Environment Protection Authority (EPA or the Authority) to have a system of preliminary risk screen assessments (PRSAs) and environmental audits. These are used in the planning, approval, regulation and management of activities, and in protection of human health and the environment.

Under the Act, the functions of an environmental auditor include to:

- conduct PRSAs and environmental audits
- prepare and issue PRSA statements and reports, and environmental audit statements and reports.

The purpose of a PRSA is to:

- assess the likelihood of the presence of contaminated land
- determine if an environmental audit is required
- recommend a scope for the environmental audit if an environmental audit is required.

The purpose of an environmental audit is to:

- assess the nature and extent of the risk of harm to human health or the environment from contaminated land, waste, pollution, or any activity
- recommend measures to manage the risk of harm to human health or the environment from contaminated land, waste, pollution, or any activity
- make recommendations to manage any contaminated land, waste, pollution or activity.

Upon completion, all PRSAs and environmental audits require preparation of either a PRSA statement, accompanied by a PRSA report, or an environmental audit statement, accompanied by an environmental audit report.

A person may engage an environmental auditor to conduct a PRSA or an environmental audit.

EPA administers the environmental audit system and ensures an acceptable quality of environmental auditing is maintained. This is achieved by assessing auditor applications and conducting a quality assurance program. These measures ensure that PRSAs and environmental audits that environmental auditors undertake are completed in accordance with the relevant sections of the Act or any other Act, and with the guidelines the Authority or other government agencies have published.

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File structures

EPA stores digital statements and reports from PRSAs and environmental audits in three parts:

- Part A, the PRSA or environmental audit report
- Part B, report appendices
- Part C, the PRSA statement and executive summary or environmental audit statement and executive summary.

Report executive summaries, findings and recommendations should be read and relied upon only in the context of the whole document, including any appendices and the PRSA statement or environmental audit statement.

Currency of PRSAs and environmental audits

PRSAs and environmental audits are based on the conditions encountered and information reviewed at the time of preparation. They don't represent any changes that may have occurred since the completion date. As it's not possible for the PRSA or audit report to present all data that could be of interest to all readers, consideration should be made to any appendices or referenced documentation for further information.

When information about the site changes from what was available at the time the PRSA or environmental audit was completed, or where an administrative error is identified, an environmental auditor may amend or withdraw PRSA or environmental audit statements and/or reports. Users are advised to check EPA's website to ensure documents' currency.

PDF searchability and printing

EPA can only provide PRSAs and environmental audit statements, reports and appendices that the environmental auditor provided to EPA via the EPA portal on the EPA website.

All statements and reports should be in a Portable Document Format (PDF) and searchable; however at times some appendices may be provided as image-only PDFs, which can affect searchability.

The PDF is compatible with Adobe Acrobat Reader, which is downloadable free from Adobe's Website (www.adobe.com).

Further information

For more information on Victoria's environmental audit system, visit EPA's website or contact EPA's Environmental Audit Unit.

Web: www.epa.vic.gov.au

Email: environmental.audit@epa.vic.gov.au

EPA VICTORIA

Preliminary Risk Screen Assessment

605C La Trobe Street, Redan, VIC 3350

28 January 2022

PRSA reference: 280122_REDAN

Document Information

Preliminary Risk Screen Assessment,
605C La Trobe Street, Redan, 3350, VIC

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Revision	Date	Author	Reviewed	Approved	Detail
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Project Manager: Shin Yi Siew

Project Director/Environmental Auditor:

Doug Ahearne (Environmental auditor pursuant to *Environment Protection Act 2017*)

Disclaimer and Limitations:

Senversa prepared this document in a manner consistent with the level of care and skill ordinarily exercised by members of Senversa's profession practising in the same locality under similar circumstances at the time the services were performed.

Senversa requires that this document be considered only in its entirety and reserves the right to amend this report if further information becomes available. This document is issued subject to the technical principles, limitations and assumptions provided herein in **Section 6.0**.

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

Senversa is an accredited BCorp.

Executive Summary

Doug Ahearne, a person appointed as an environmental auditor (contaminated land) by the Environment Protection Authority under Division 1 of Part 8.3 of the *Environment Protection Act 2017 (Vic.)* has prepared this Preliminary Risk Screen Assessment (PRSA) report and issued a PRSA Statement for the property described as 605C La Trobe Street, Redan VIC 3350. The site is shown in **Figure 1** and the PRSA Statement is presented in **Appendix A**.

The summary information of this PRSA is presented in the following tables, in accordance with EPA Publication 2022:

Table 1: Summary of PRSA Information

Item	Relevant Site Information
PRSA reference	280122_REDAN
Auditor	Doug Ahearne
Auditor account number	250906
Name of person requesting PRSA	Tom Baldi
Relationship person requesting PRSA to site	Representative of site owner
Name of site owner	Magellan Developments (Vic) Pty Ltd
Date of auditor engagement	24 November 2021
Completion date of the PRSA	28 January 2022
Reason for PRSA	Planning requirement
Elements of the environment assessed	Land environment Water environment (including groundwater and surface water)
Planning permit number or requirement detail if applicable	Certificate of Compliance Lodgement (Certificate No. COC/2021/009) (The auditor notes that the permit requires an environmental audit, however the auditor understands that the client has approached Council and that it considers a PRSA appropriate to address this requirement)
EPA Region	South West
Municipality	City of Ballarat
Dominant - Lot on Plan	Plan CP164651
Additional - Lot on Plan(s)	-
Site / premises name	-
Building/complex sub-unit No.	-

Item	Relevant Site Information
Street/Lot - Lower No.	-
Street/Lot - Upper No.	605C
Street Name	La Trobe
Street type	Street
Street suffix	-
Suburb	Redan
Postcode	3350
Site area (in m^2)	1,868
Plan of site/premises/location showing the PRSA site boundary attached	Figure 1
Members and categories of support team utilised	None
Further work or requirements	None
Nature and extent of continuing risk of harm	None
Outcome of the PRSA report	An environmental audit is not required.

Table 2: Physical Site Information

Item	Relevant Site Information
Historical site use	Commercial use as s**ecure vehicle and logistics depot**
Current land use	Vacant
Proposed land use	Medium density residential use (as community care accommodation)
Current land use zoning	Mixed Use Zone (MUZ)
Proposed land use zoning	Unchanged
Surrounding land use - north	Low density residential properties with a sport field/reserve and a Ballarat South Senior Citizen Centre (club house) located northeast of the site.
Surrounding land use - south	Low and medium density residential properties with commercial properties to the southeast, including a kindergarten located approximately 245 m southeast of the site.

Item	Relevant Site Information
Surrounding land use - east	Low density residential property and commercial properties, followed by a shopping centre.
Surrounding land use - west	Commercial land use then low density residential properties.
Has EPA been notified about the site under Section 40 of the *Environment Protection Act 2017*?	No
Nearest surface water receptor - name	Redan Creek
Nearest surface water receptor - direction	East
Site aquifer formation	Newer Volcanic Group
Groundwater segment	A2

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Appendix I: Dial Before You Dig Service Plans

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List of Acronyms

Acronym	Definition
ACM	Asbestos containing material
BTEXN	Benzene, toluene, ethylbenzene, xylenes and naphthalene
COC	Certificate of compliance
CoPC	Contaminant of potential concern
CSM	Conceptual site model
DBYD	Dial-Before-You-Dig
DELWP	Department of Environment, Land, Water and Planning
EAO	Environmental Audit Overlay
EPA	Environment Protection Authority (Victoria)
ERS	Environment Reference Standard
GQRUZ	Groundwater Quality Restricted Use Zone
m	Metre
m AHD	Metres Australian Height Datum
mbgl	Metres below ground level
mg/L	Milligrams per litre
MMBW	Melbourne and Metropolitan Board of Works
MUZ	Mixed use zone
NBN	National Broadband Network
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
OCP	Organochlorine pesticides
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PRSA	Preliminary Risk Screen Assessment
PSI	Preliminary Site Investigation
PVC	Polyvinyl chloride
QAQC	Quality assurance / quality control
TPH	Total petroleum hydrocarbon
TRH	Total recoverable hydrocarbon
UST	Underground storage tank
VCH	Volatile chlorinated hydrocarbon
VLR	Victorian Landfill Register

1.0 Introduction and Objectives

Magellan Projects (Vic) Pty Ltd (Magellan Projects) engaged Doug Ahearne of Senversa Pty Ltd, in his capacity as an environmental auditor appointed under the *Environment Protection Act 2017*, to undertake a Preliminary Risk Screen Assessment (PRSA) of 605C La Trobe Street, Redan VIC 3350 ('the site'). The site location is shown in **Figure 1**.

The PRSA was conducted in accordance with Division 2 of Part 8.3 of the *Environment Protection Act 2017*. At the time of completing this PRSA the current guidelines were a "draft for consultation", *Guidelines for conducting preliminary risk screen assessments*, EPA Publication 2021, November 2021 (herein referred to as EPA PRSA Guidelines).

1.1 Objective

The objective of this PRSA was to consider the likelihood of the presence of contaminated land at the site for a current and proposed use and recommend whether an environmental audit is required for the site, in accordance with the *Environment Protection Act 2017*. In accordance with the EPA PRSA Guidelines, the potential outcomes of a PRSA are as follows:

- Unlikely that contaminated land is present, and no environmental audit required; or
- Likely that contaminated land is present, but no environmental audit is required. This is where the site is, or likely to be contaminated, however, the contamination is not expected to be (or found to be) at levels that will "*prevent or restrict the use or proposed use of the site*. *Therefore, no further investigation is necessary"* (EPA 2021f); or
- Likely that contaminated land is present and an environmental audit is required. Results from the PRSA indicate that there is the potential for contamination that requires further investigation under an appropriately scoped environmental audit (based on element(s) of environment, area or activity).

1.2 Scope of Work

The scope of work undertaken is summarised below:

- Desktop analysis of the history of the site.
- Physical site inspection (site walkover) conducted by the auditor.
- Summary of regional and local (site) conditions and environmental settings.
- Development of an initial conceptual site model (CSM) to identify potential sources of contamination, understand their likely fate and transport in the environment and assess the possible exposure pathways to receptors associated with the current and/or proposed use of the site.
- Assessment of the likelihood that contamination is present that will prevent or restrict the current and/or proposed site use.
- Determine whether there is a risk posed to the environmental values of land, groundwater, surface water (and sediment) and air by contamination that may be present at the site.
- Determine whether further investigation of the site through an environmental audit is required to consider the risk of harm that may be posed by the contamination to the proposed use of the site and recommend a scope for any required environmental audit.
- Determine whether sufficient information is available to make the conclusions necessary for the PRSA statement.
- Preparation of this PRSA report outlining the procedure followed and the findings of the PRSA.

1.3 Proposed Development

The site is proposed to be developed into community care accommodation. This comprises of the following:

- A single-storey building (with office, common recreation room, common kitchen, quiet rooms, meeting rooms).
- Four double-storey residential buildings (housing four units per building).
- A carpark in the southeast corner of the site.

No basement is proposed for the development. This development is considered to be 'Sensitive use – other' land use category in accordance with the Environmental Reference Standard (EPA 2021).

The development plans depicting the proposed future site improvements are provided in **Appendix B**.

2.0 Site Description and Environmental Setting

2.1 Site Details

The PRSA has been prepared for the site defined by the boundaries illustrated on **Figure 1**. The site's property reports are provided in **Appendix C**. **Table 2-1** summarises the relevant details that describe the site.

Table 2-1: Site Description.

Item	Relevant Site Information
Site Address	605C La Trobe Street, Redan VIC 3350
Title Plan Identifier	Plan CP164654 (provided in **Appendix D**)
Site Area	1,869 m^2
Municipality	City of Ballarat
Current Zoning	Mixed Use Zone (MUZ)
Overlays	Environmental Audit Overlay (EAO)
Current Site Occupier and Use	Vacant
Surrounding Land Uses	**North**: Low density residential properties with a sport field (Pleasant Street Reserve) and Ballarat South Senior Citizen Centre (club house) located northeast of the site.
	South: Low and medium density residential properties with commercial properties to the southeast, including an automotive workshop located approximately 60 m to the southeast.
	East: A residential property on La Trobe Street and commercial properties on Foster Street (including and automotive workshop and a panel beaters). Further to the west is a shopping centre.
	West: Commercial land use immediately to the west (a small warehouse and retail outlet for screens, doors and glazing) then low density residential properties.

2.2 Environmental Setting

Data sources used to assess the environmental setting are documented in a Lotsearch report for the site (**Appendix E**). Observations were also made during the site inspection (**Section 3.4**).

2.2.1 Topography, Drainage and Nearest Waterbodies

Elevation data provided by Lotsearch (refer to page 6 of **Appendix E**) indicates the regional topography slopes to the southeast. Consistent with the regional topography, the site itself slopes slightly from northwest (436.4 m above the Australian height datum [mAHD]) to the lowest point at the southeast corner (435.4 mAHD) as indicated in survey plan provided in **Appendix B**.

It is expected that stormwater runoff would infiltrate unpaved areas on site and any excess runoff would be directed to municipal drains along Foster and La Trobe Streets.

There is no surface water body present on the site. The nearest surface water body is Redan Creek, located approximately 330 m east of the site. Redan Creek flows towards the Redan Wetlands, which are located approximately 1.4 km southeast of the site.

2.2.2 Regional Geology

The geology at the site is mapped as Miocene to Holocene-aged (Tertiary to Quaternary) Newer Volcanic Group (Neo), typically comprising olivine tholeiite, quartz tholeiite, basanite, basaltic icelandite, hawaiite, mugearite, minor scoria and ash, and fluvial sediments (refer to pages 60 to 62 of **Appendix E**). The basalt series is described as tholeiitic to alkaline; including sheet flows and valley flows with intercalated gravel, sand, clay.

2.2.3 Site Geology

The following site lithology is documented in the Provincial Geotechnical (2021) report (refer to **Section 3.1** and **Appendix F** for further discussion):

- 0 to 0.3-0.4 mbgl – FILL: gravel/sand, moderately compacted.
- 0.3 to 1 mbgl – Silty CLAY or CLAY: brown, stiff.

This is consistent with the regional geology of the area.

2.2.4 Acid Sulfate Soil

Based on information obtained from Atlas of Australian Acid Sulfate Soils, the site is in an area of low probability of acid sulfate soil occurrence (refer to pages 67 to 69 of **Appendix E**).

2.2.5 Regional Hydrogeology

The aquifer at the site is inferred to be the Upper Tertiary/Quaternary Newer Volcanic Group fractured rock aquifer (**Appendix G**). The water table is estimated to be approximately 5 to 10 mbgl (refer to pages 42 to 43 of **Appendix E**).

Groundwater salinity is likely to range between 1,000 to 3,500 mg/L. This would classify the groundwater most conservatively as Segment A2 as defined under the ERS. The applicable environmental values for Segment A2 groundwater are:

- Water dependent ecosystems and species.
- Potable water supply (acceptable).
- Potable mineral water supply.
- Agriculture and irrigation (irrigation).
- Agriculture and irrigation (stock watering).

- Industrial and commercial use.
- Water-based recreation (primary contact recreation).
- Traditional Owner cultural values.
- Buildings and structures.
- Geothermal properties.

Insufficient information is available to determine the local groundwater flow direction. In the absence of local groundwater elevation data, regional groundwater has been assumed to flow east towards Redan Creek; i.e. towards the nearest surface water body and following the general local topography.

Redan Creek has a high potential to be a groundwater dependent ecosystem based on the Bureau of Meteorology's Groundwater Dependent Ecosystems Atlas (refer to page 82 to 83 of **Appendix E**).

2.2.6 Groundwater Bore Search

A review of the DELWP Water Measurement Information System database has identified 88 registered groundwater bores within 2 km of the site (refer to pages 44 to 51 of **Appendix E**).

The nearest of the registered bores to the site were three bores (Bore ID: WRK988405 to WRK988407) located approximately 450 m to 485 m east of the site. There is no available data for the three bores and therefore, it is unknown what these bores were used for.

The bores registered for extractive use are as follows:

- WRK979516, referred for domestic and stock, located approximately 505 m west of the site.
- 12 bores (WRK979503 to WRK97507, WRK979512 to WRK979515, WRK979517 to WRK979519), registered domestic and stock use, located approximately 555 m west of the site.

The registered groundwater bore search suggests that apart from observation and monitoring, groundwater within 1 km of the site may be used for domestic and stock purposes.

3.0 Preliminary Site Investigation

The PRSA is based on the findings of a Preliminary Site Investigation (PSI) that Senversa completed in accordance with the guidance within the National Environment Protection (*Assessment of Site Contamination*) Amendment Measure 2013 (No. 1) (NEPC 2013). This is hereafter referred to as 'the ASC NEPM'. This **Section 3.0** details the scope and findings of the PSI.

3.1 Previous Site Investigation

Magellan Projects provided the following assessment report, which was completed prior to the PRSA commencing:

- Provincial Geotechnical Pty Ltd (2021) *Preliminary Environmental Site Assessment*, ref no. 17120E, dated 22 June 2021 (provided as **Appendix F**).

This report detailed the soil investigation conducted by Provincial Geotechnical Pty Ltd (Provincial Geotechnical) at eight grid-based locations across the southern portion of the site.

Eight soil bores (maximum 1 m depth) were advanced and eight selected soil samples (from 0.2 mbgl in fill soil) were tested for the following analytes:

- pH, fluoride and cyanide.
- Metals (arsenic, cadmium, total chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, tin and zinc) and hexavalent chromium.
- Total recoverable hydrocarbon (TRH), benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN).
- Volatile chlorinated hydrocarbon (VCH).
- Polycyclic aromatic hydrocarbon (PAH) and phenols.
- Organochlorine pesticides (OCP) and polychlorinated biphenyl (PCB).
- Asbestos (qualitative identification).

No concentrations greater than the ASC NEPM health investigation levels for residential A (residential with garden/accessible soil; low density residential) land use were reported. All cyanide, mercury, silver, hexavalent chromium, TRH, BTEXN, VCH, PAH, phenols, OCP, PCB results were less than the laboratory's limits of reporting.

As discussed in **Section 2.2.3**, the soil profile was logged as a layer of fill (sand and gravel) underlain by natural soil.

It is noted that the site investigation conducted by Provincial Geotechnical does not include any quality assurance/quality control (QAQC) sampling such as field duplicates, rinsate blanks, or data quality review. However, the laboratory which analysed the samples was NATA-accredited and internal laboratory QAQC measures were adopted.

3.2 Site History Review

This section presents the findings of a site history review completed in accordance with the ASC NEPM and AS4482.1-2005 guidance. Data sources are documented in the Lotsearch report (**Appendix E**).

3.2.1 Previous Occupiers and Uses

3.2.1.1 The site

The Universal Business Directory and Sands & McDougall Directory records for a 150 m buffer around the site were compiled and the following business activity was reported for the site:

- Security Services (Armaguard, unit of Mayne Nickless), 1991.

3.2.1.2 Off-site

There are several matches from the Sands and McDougall directory for other properties on La Trobe Street, Adair Street (i.e., west of the site) and Foster Street between 1950 and 1991. These include:

- Bus services – charters & tours (605B La Trobe Street), 1991.
- Direct Intra and Interstate Daily (605A La Trobe Street), 1960.
- Tank manufacturing and tank distributors, hot water heating/ventilating, plumbers, sewerage contractors, building contractors, timber merchants and sawmillers (606 La Trobe Street, 606 La Trobe Street, 602 Pleasant Street), 1950 to 1980.
- Motor car dealers/garages/tyre services, porta gas agents, real estate agents (603 La Trobe Street), 1960 to 1991.
- Livestock transport, carriers and cartage contractors (115 Adair Street), 1960.

Surrounding land uses in the immediate area were considered further during the site inspection (see **Section 3.4**).

In the broader area surrounding the site, other historical uses include:

- Livestock transport.
- Carriers and cartage contractors.
- Machinery merchants (62 m southwest of the site).
- Milk bars and confectionary shops.
- Horse trainers.
- Fuel and ice merchants (122 m south of the site).
- Bricklayers (142 m north of the site).
- Painters, decorators, and paperhangers (124 m southwest of the site).
- Caravan sales.

There is a low potential for impacts from land uses in the broader area given the distance to the land uses.

3.2.2 Current and Historical Land Titles

Prior to the acquisition of the land by Linfox Armaguard in 2004, the site was sub-divided into two parcels (refer to **Plate 1**). The two former parcels are arbitrarily numbered as 1 and 2. Lists of the registered proprietors and term of acquisition are summarised in the **Tables 3-1** to **3-3**.

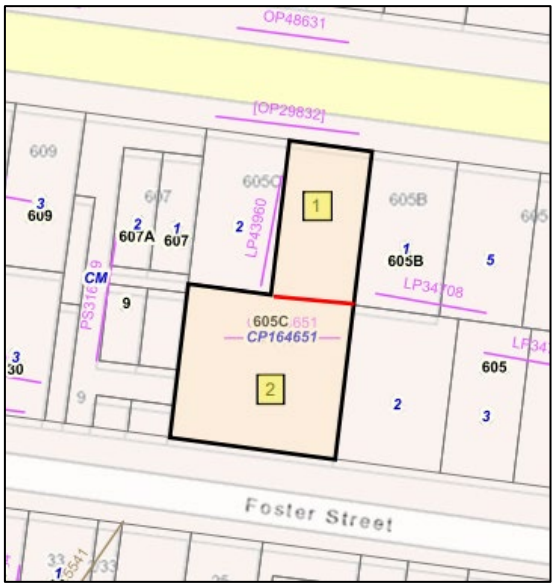

Plate 1: Two former land parcels which made up the site (Vicmap Property 2021)

Table 3-1: Summary of Historical and Current Ownership and Titles (for Land Parcel Numbered 1).

Date of Acquisition (term held)	Registered Proprietor(s) & Occupations (where available)	Reference to Title at Acquisition and Sale
03.02.1952 **(1952 to 1958)**	Harry Flowers (HorseTrainer) (or Henry Flowers)	Vol 7593 Fol 194 (Grant)
05.12.1958 **(1958 to 1958)**	Linda Edeline Benjamin (Married Woman)	Vol 7593 Fol 194 Now Vol 8224 Fol 178
05.12.1958 **(1958 to 1971)**	Jean Alice Matthews (Married Woman)	Vol 8224 Fol 178
15.07.1971 **(1971 to 2004)**	Mayne Nickless Limited	Vol 8224 Fol 178 Now Vol 9747 Fol 311

Table 3-2: Summary of Historical and Current Ownership and Titles (for Land Parcel Numbered 2).

Date of Acquisition (term held)	Registered Proprietor(s) & Occupations (where available)	Reference to Title at Acquisition and Sale
03.02.1952 **(1952 to 1958)**	Harry Flowers (Horse Trainer) (or Henry Flowers) (& his deceased estate)	Vol 7593 Fol 194 (Grant)
12.07.1963 **(1963 to 1964)**	Rudy Paul Sandall (Married woman) Judith Flower Jacona (Married Woman)	Vol 7593 Fol 194 Now Vol 8458 Fol 222
04.02.1964 **(1964 to 2004)**	Mayne Nickless Limited	Vol 8458 Fol 222 Now Vol 9747 Fol 311

Table 3-3: Summary of Historical and Current Ownership and Titles (for the whole site; Land Parcel Numbered 1 and 2).

Date of Acquisition (term held)	Registered Proprietor(s) & Occupations (where available)	Reference to Title at Acquisition and Sale
19.02.2004 **(2004 to 2004)**	Linfox Armaguard Pty Ltd	Vol 9747 Fol 311
27.04.2004 **(2004 to 2018)**	LPG Armguard Property No. 1 Pty Ltd	Vol 9747 Fol 311
27.09.2018 **(2018 to 2021)**	Adriaans Properties Pty Ltd	Vol 9747 Fol 311
30.07.2021 **(2021 to date)**	Magellan Developments (Vic) Pty Ltd – current registered proprietor	Vol 9747 Fol 311

Linfox acquired Mayne Nickless Limited (a logistic and transport company, previous parent company of Armaguard) in 2003[1]. Based on the title information, the site was used as and Armaguard depot since 1964. Prior to that ownership was registered to several individuals.

Further details on the online search of historical land titles conducted on 7 December 2021 are presented in **Appendix D**, including certificate of titles.

[1] 'Armaguard Group – our history' website accessed on 20 December 2021 at: https://www.armaguard.com.au/our-history

3.2.3 Historical Society and Directories Search

A search using keyword 'Redan' within the Victorian Heritage Database (accessed at https://vhd.heritagecouncil.vic.gov.au/) on 1 December 2021) identified that there are no known historic places at the site.

3.2.4 Internet Search

An internet search was conducted on 1 December 2021, using the following terms set out in the **Table 3-4**.

Table 3-4: Internet Search Results.

Term	Website Link	Information
605C La Trobe Street, Redan	605C&D La Trobe Street, Redan VIC 3350 - Sold Land & Development Property | Commercial Real Estate	Real estate photographs from March 2021 show that the site and adjacent parcel to the northeast (Lot 2 LP43960) was vacant since March 2021.
	605c La Trobe Street, Redan VIC 3350 - Sold Land & Development Property | Commercial Real Estate	Real estate photographs show that the site was vacant since August 2018.
Armaguard Ballarat	https://www.thecourier.com.au/story/5000250/despair-as-yet-another-business-prepares-to-abandon-ballarat/	This article dated 19 October 2017 indicated that the Armaguard Ballarat outlet (i.e., depot located at the site) was to be closed in late 2017.

3.2.5 Past Buildings and Structures

The historical aerial photographs provided within the Lotsearch report (refer to page 27 to 36 of **Appendix E**) indicate that the site appeared undeveloped and vacant from the time of the earliest aerial photograph (1957) until sometime between 1961 and 1970, when the southern portion of the site appeared to be used for truck parking with potentially a small shed present near the southern site boundary.

Based on the 1975 aerial photograph, it appeared that a building (inferred to be the office building for the depot) was present in the northern portion of the site. Sometime between 1990 and 2004, a shed (with a green roof) was constructed at the south-western portion of the site. That shed was an open parking bay for Armaguard vehicles (see **Plate 3**).

Plate 2 is an aerial photograph from 2 October 2010 marked up to show previous site buildings. **Plates 3** and **4** are from Google Street View showing the layout of the site when buildings were still present. It is noted that older Google Street View images, dating back to 2007, were reviewed and showed the same layout.

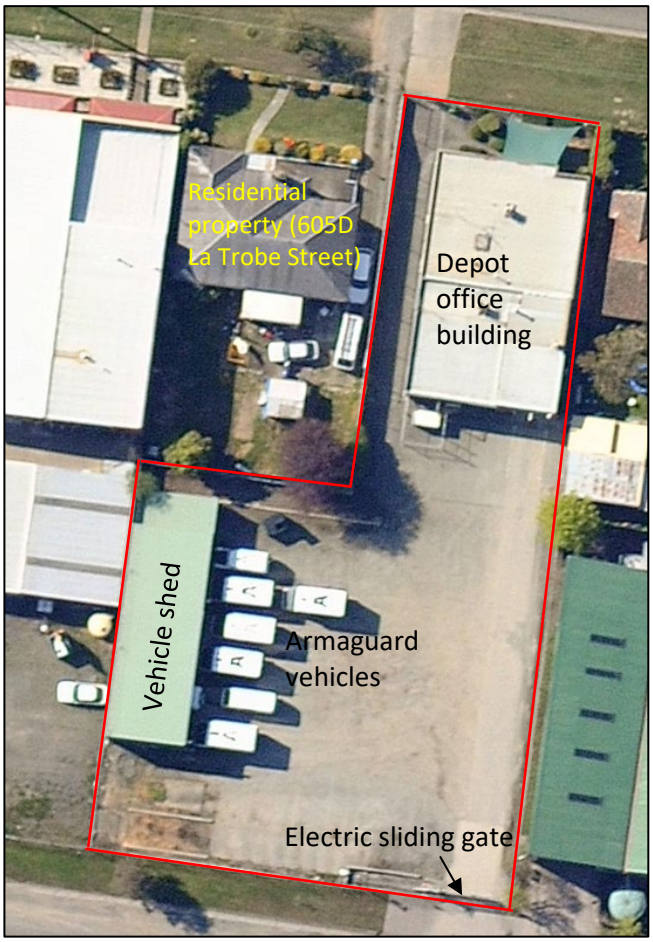

Plate 2: Aerial photograph of the site from 2 October 2010 (Source: Nearmap)

Plate 3: View of the Armaguard depot from La Trobe Street, February 2018

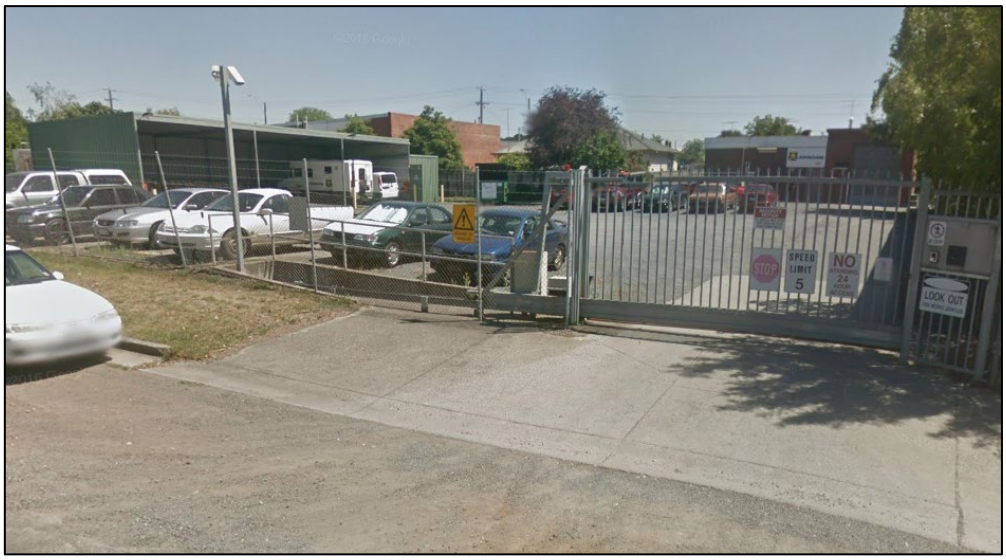

Plate 4: View of the car and Armaguard vehicle parking area from Foster Street, December 2014

3.2.6 Existing Buildings and Structures

The site is currently vacant with all buildings and structures demolished. The site is partially fenced and some gates remain. Photographs from the auditor's site inspection are presented in **Appendix H**.

3.2.7 Existing Underground Services

Dial-Before-You-Dig (DBYD) plans were requested on 26 November 2021 (**Appendix I**). Underground services affecting the site are summarised in **Table 3-5**.

Table 3-5: Underground services identified at or near the site (Dial Before You Dig).

Service	Service Provider	Location
Gas	AusNet Services	Gas distribution mains are predominantly located within La Trobe and Foster Street road reserves.
Communications	Telstra National Broadband Network (NBN)	NBN and Telstra assets are shown to enter in the northern and southern boundaries of the site.
Electricity	Powercor	No high voltage services are present onsite or within the vicinity of the site. A low voltage service is shown south of Foster Street, and high voltage service is shown further east of La Trobe and Foster Street.
Sewer	Central Highlands Water	A sewer main is present on-site, entering from west to east (along an easement). A sewer gatic cover is present along the eastern boundary of the site.
Water	Central Highlands Water	Water service lines are located within La Trobe and Foster Street road reserves.
Stormwater	City of Ballarat	No stormwater drainage asset included in the provided plans.

Based on the certificate of title information and survey plan for the site (refer to **Appendix B** and **Appendix D**), there are two drainage and sewage easements present at the site:

- One orientated east-west along the middle of the site (immediately south of the adjacent property 605D La Trobe Street).
- One orientated north-south along the southern half of the eastern site boundary.

3.2.8 Historical Mining Activities

There is no record of historical mining activity, including mining shafts, at the site.

There are 48 mapped historical mining shafts located within 1 km of the site, which is expected for the Ballarat region. The nearest mine shaft is located approximately 250 m to the east of the site (refer to page 57 to 59 of **Appendix E**).

3.2.9 Historical Aerial Photographs

Historical aerial photographs from 1957, 1961, 1970, 1975, 1981, 1985, 1990, 2004, 2011 and 2021 are provided within the Lotsearch report (refer to page 27 to 36 of **Appendix E**). They were reviewed along with aerial photographs from 2013 to 2019 from NearMap (Photograph 1 to 5 of **Appendix H**). Features visible in the historical aerial photographs relevant to the potential for contamination on the site and surrounding land are summarised in **Table 3-6**.

Table 3-6: Historical Aerial Photographs Review.

Photograph	Observations	
	On-Site	Surrounding Land
Date: 1957 to 1961 **Black and White** **Quality – Poor**	The site appears vacant with some vegetation along the southern and eastern boundary.	The surrounding area appears mostly developed with low-density residential dwellings. Large parcels of land appear vacant approximately 150 m northeast and 200 m northwest of the site. A structure is present immediately east and northwest of the site in the 1961 aerial photograph.
Date: 1970 to 1985 **Black and White** **Quality – Poor**	The southern portion of the site appears to be used for truck parking, while the northern portion remains vacant and unchanged until sometime between 1970 and 1975, when a building was constructed (understood to be the Armaguard depot). The site appears unchanged from 1975 to 1985. The vegetation present along the southern and eastern boundaries is longer present by 1975.	Further residential development has progressed to the north, south and west of the site. Some commercial/industrial development has occurred to the east of the site.
Date: 1990 to 2011 **Colour** **Quality – Average to Good**	The site appears unchanged since 1975. A shed is present in the southwestern portion of the site by 2004 (known to be a parking bay). Armaguard vehicles are observed to be parked near this shed.	Further residential development has occurred in the vacant parcel of land located approximately 200 m northwest of the site.
Date: 2011 to 2019 **Colour** **Quality – Good** **(NearMap extracts)**	The site appears relatively unchanged since 2011. By September 2018 all site buildings had been demolished and it was vacant.	The adjacent dwelling to the northwest of the site is no longer present by 2019.

Photograph	Observations	
	On-Site	Surrounding Land
Date: 2021 **Colour** **Quality – Good**	The site is vacant with predominantly grassed and gravel (bare) ground cover.	The surrounding area appears relatively unchanged since 2011.

The historical aerial photographs indicate that the site condition and use appear to be relatively unchanged since its first establishment as an Armaguard depot sometime between 1970 and 1975. Based on the Nearmap aerial photographs, all buildings and structures (except some perimeter fencing) had been demolished sometime between November 2017 and September 2018. This is consistent with the news article which reported that the Armaguard depot was to be cease operation at the end of 2017 (refer to **Section 3.2.4**).

3.2.10 Council Records

Based on email correspondence dated 2 December 2021 from the City of Ballarat, there were four planning applications relevant for the site. They are:

- Property Application PLP/2021/860: Use and development of a warehouse, display of business identification signage and alter access to a Road Zone.
- Property Application PLP/2021/627: Certificate of Compliance, Community Care Accommodation.
- Property Application PLP/2019/509: Use and development of two retail shop or offices, erection of business identification signage, realignment of common boundaries and alteration of access to a road zone category 1.
- Property Application PLP/2019/1: Use and development of retail shops and warehouses, alteration of access to a road in a Road Zone, Category 1, indented car parking in Road Zone, Category 1, reduction in car parking requirements, display of business identification signage and a staged multi-lot subdivision.

Although the applications indicate that development was being considered in recent years, none had gone ahead based on evidence that the site has remained vacant during that time. The application associated with “Community Care Accommodation” is understood to be associated with the current development.

3.2.11 Dangerous Goods Search

Senversa contacted WorkSafe Victoria for dangerous goods records associated with the site on 30 November 2021. WorkSafe Victoria responded on 30 November 2021 stating that there are no records of a notification of dangerous goods stored or handled at the site. A copy of the email correspondence with WorkSafe Victoria is provided as **Appendix J**.

3.2.12 Cathodic Protection Search

EnergySafe Victoria maintains a database of registered cathodic protection system, some of which are associated with underground storage tanks (USTs). A search of their online database indicated no record for the site (and in the suburb of Redan). A copy of the Energy Safe Victoria search result is provided as **Appendix K.**

3.2.13 Chemical Storage and National Liquid Fuel Facilities

There are no operational petrol stations within 500 m of the site. The nearest service station is the APCO Service Station location on 601 Skipton Street, located approximately 900 m east southeast of the site. This service station is too far away to impact the site.

There is no registered national liquid fuel facility located within 1 km of the site (refer to page 18 of **Appendix E**).

3.2.14 Industrial Processes and Products Manufactured

There are no known industrial or manufacturing activities documented at the site.

3.2.15 Product Spills, Losses, Incidents and Accidents

There are no known incidences of spills, losses, incidents or accidents (including fire) at the site.

3.2.16 Wastes Produced

There are no records of wastes being produced at the site. The auditor notes that the site is located in an area with municipal waste collection.

3.2.17 Imported Fill and Earthmoving Activities

The site does not appear to be significantly altered by earthmoving activities or imported historical fill. Based on the lithology logged by the Provincial Geotechnical (2021), the site is covered with a shallow (approximately 0.3 to 0.4 m thick) fill soil which is expected for an urban area.

Proximity to former gasworks sites increases the risk of contaminated fill material being historically deposited on-site. There is no former gasworks identified within 1 km of the site (refer to page 18 of **Appendix E**).

3.3 EPA Online Resources

3.3.1 Priority Site Register

Priority sites are sites for which EPA has issued a current clean-up notice or pollution abatement notice, or a current environmental action notice or other notice to manage contamination. Typically, these are sites where EPA has assessed that pollution of land and/or groundwater presents a potential risk to human health or to the environment, and where active management is required to reduce this risk.

There are no current and previous priority sites identified within 1 km of the site (refer to page 7 of **Appendix E**).

3.3.2 EPA Licensed Activities and Works Approvals

An EPA licence allows a business to undertake certain activities at a specific premises (such as waste treatment or disposal). These license holders must set an annual performance statement each year on the environmental performance of the license holder and compliance with the license.

There is one current licensed activity and no former licensed activity or works approval identified within 1 km of the site (refer to pages 13 and 14 of **Appendix E**). The current licensed activity is summarised in **Table 3-7**.

Table 3-7: EPA licenced activity located within 1 km of the site.

EPA Licence	Organisation	Location	Approximate Distance and Direction from Site	Licensed Activity
74358	FMP Group Pty Ltd	8 Elizabeth Street, Delacombe VIC 3356	520 m west	L01 General Emissions to Air

A search of the internet for the licensed facility[2] has indicated that it is a disc brake pads manufacturer. The licensed facility is considered too far away to impact on the site.

3.3.3 Waste Management Facilities and Landfills

Two EPA prescribed industrial waste sites (treaters, disposer and permitted transporters) were identified with 1 km of the site (refer to pages 15 and 16 of **Appendix E**) and they are:

- H A Excavations Pty Ltd at 303 La Trobe Street, Redan (approximately 620 m to the east of the site) was previously included on an EPA list of prescribed industrial waste sites.
- Transpacific Cleanaway Pty Ltd at Lot 20 Douglas Street, Delacombe (approximately 730 m southwest of the site) is currently included in the EPA list of prescribed industrial waste sites. This site is not documented to treat or dispose prescribed industrial waste.

A search of the internet for this Cleanaway Delacombe site[3] has indicated that it is a facility dealing in solid waste such as general and cardboard waste, commingled recycling, building waste and cardboard processing. The Cleanaway Delacombe site is considered too far away to impact the site.

Similarly, the HA Excavations site (i.e. former EPA prescribed waste site) is also considered too far away to impact the site.

3.3.4 Victorian Landfill Register

The Victorian Landfill Register (VLR) contains information relating to landfill licences, landfill post closure pollution abatement notices, Regional Waste and Resource Recovery Implementation Plans and historic landfill records held by EPA.

Two closed landfills were identified within 1 km of the site (refer to pages 15 and 17 of **Appendix E**) as shown in **Table 3-8**.

Table 3-8: Closed landfills located within 1 km of the site

Landfill Register No.	Location	Approx. Distance and Direction from Site	Operating Status	Estimated Year of Closure	Waste Type
10037	La Trobe Street, Redan	165 m northeast	Closed	1950	Putrescible waste
10573	8 Elizabeth Street, Delacombe	520 m west	Closed	No data	No data

[2] LinkedIn profile for FMP Group (Australia) Pty Ltd, accessed on 21 December 2021 at https://au.linkedin.com/company/bendix
[3] Cleanaway Delacombe – Solid Waste Services, accessed on 21 December 2021 at https://www.cleanaway.com.au/location/delacombe/

The closest former landfill to the site is located at the current Pleasant Street Reserve (sport field and playground). This landfill was closed more than 70 years ago, therefore it is considered beyond an age representing a landfill gas risk to the site.

The other closed landfill is greater than 500 m away, therefore too distant to impact the site.

3.3.5 Nearby PRSA and Environmental Audits

EPA Victoria publishes a list of properties for which:

- A PRSA has been completed.
- An environmental audit has been completed under the *Environment Protection Act* 1970, or *Environment Protection Act 2017* after 1 July 2021.

A review of the list (on 1 December 2021) indicated no record of a completed environmental audit at site itself, and one audit completed within 1 km of the site (refer to page 10 and 11 of **Appendix E**). Pertinent information from the nearest environmental audit is summarised in **Table 3-9**.

Table 3-9: Completed environmental audit located within 1km of the site.

Audit Address and Details	Approximate Distance and Direction from Site	Summary of Relevant Information
403 La Trobe Street, Ballarat **EPA CARMS reference: 69620-1** **Date: 19 August 2013** **Auditor: Timothy Kent Russell, Parsons Brinckerhoff Australia Pty Ltd**	436 m east	• A large portion of the property was used a blue stone quarry until 1936. • The quarry was backfilled with silty clay material fill with a variety of solid inert materials including ceramic tiles, metal, brick and glass from 1936 to 1957. • The property remained undeveloped and vacant since 1957. • Lithology comprised fill ranging in thickness from 0.3 to 5.9 mbgl overlaying silty clays of the Newer Volcanic Group basalt. • Fill material contained concentrations of metals (arsenic, cadmium, copper, lead, manganese, mercury, nickel, tin and zinc), pH, fluoride, cyanide, benzo(a)pyrene, total PAHs, and TPH C15–C35 aromatics concentrations. • Groundwater was identified at depths of approximately 16 to 21 mbgl and inferred to flow east towards Yarrowee River. • Concentrations of metals (copper and zinc), nitrate, nitrite and total cyanide exceeded the criteria for *Maintenance of Ecosystems*. Concentrations of manganese, sodium and nitrate exceeded the criteria for *Potable Water Supply*. • A statement of environmental audit was issued concluding that the site suitable for medium density residential land use provided that a capping layer and building footprints covering the entire area of the site is maintained in accordance with the proposed development plan and the Contaminant Management Plan prepared for the site.

The review of nearby audits did not identify any contamination issues that have the potential to impact the site.

3.3.6 Groundwater Quality Restricted Use Zones

A Groundwater Quality Restricted Use Zone (GQRUZ) refers to an area where one or more environmental values of groundwater have not been maintained and EPA has identified the zone on a searchable map. This is identified following an environmental audit, where the site has remaining groundwater contamination.

There are no GQRUZ identified within 1 km of the site (refer to page 12 of **Appendix E**).

3.4 Site Inspection

Doug Ahearne inspected the site on 8 December 2021 to identify potential sources of contamination and observe the condition of the site and surrounding areas. The inspection results are summarised in **Table 3-10**. Site photographs are provided in **Appendix H**.

Table 3-10: Site Inspection Observations.

Inspection Item	Feature Identified (from AS4482-2005, S3.3)	Details
A	Areas of discoloured soil, polluted water, affected plant growth and animal populations and significant odours.	These were not observed at the site. Refer to **Appendix H**.
B	The presence of any stockpiled material, imported soil or fill material such as slag, ashes, potential asbestos containing materials, scrap and industrial or chemical waste, as well as any signs of settlement, subsidence and disturbed ground.	There was a vegetation and soil stockpile located at the southern portion of the adjacent 605D La Trobe Street property (i.e. off-site) present on 8 December 2021 (**refer to Photograph 14).** It appeared to be a mix of vegetation and soil. Whilst it appeared to be largely on the adjacent property it may have extended onto the site. Although it was not considered necessary to remove it as part of the PRSA it was due to be removed and that was done prior to the completion of this report. Magellan Projects supplied a photograph (**Photograph 15**) to confirm its removal. Surface soils across the site appeared to comprise reworked local soil and gravel (**Photograph 6 to 10**). Asbestos containing material and other building debris were not observed at the surface.
C	Assessment of soil loss or deposition that has occurred in the past and evaluation of the future erosion potential.	No sign of erosion was evident.
D	The direction of the flow of water run-off from the site and adjacent properties.	Given the topography, surface run-off was inferred to flow predominantly towards the southeast.
E	The depth of any standing water, the direction and rate of flow of rivers, streams or canals, together with their flood levels and any tidal fluctuations	No standing water was present at the site.
F	Any differences between the present conditions and the information obtained from the site history.	The condition of the site was as expected given the known site history.

Inspection Item	Feature Identified (from AS4482-2005, S3.3)	Details
G	Location and condition of all visible features, including foundations, positions of former buildings, tanks, pits, wells, drains and bores	No foundations of former buildings, tanks, wells, drains or bores were observed. A sewer pit, a tap (town water) and a stormwater pit located along the eastern site boundary of the southern portion of the site were noted to be present (**Photographs 12 and 13**). A white polyvinyl chloride (PVC) pipe was observed at the site. Magellan Projects advised that it marks the location of the sewer riser along the east-west orientated drainage/sewage easement (**Photograph 7**). There was an electric sliding gate over the southern driveway at the southern site boundary (**Photograph 11**).
H	Condition and type of ground cover, e.g. bare ground, asphalt, concrete, gravel, etc.	The site was generally covered with short grass or loose gravel (**Photograph 6 to 10**). Isolated small patches of bare ground were also observed.
I	Chemical storage and transfer areas, including the presence of waste or chemical containers.	There were no chemical storage areas observed.
J	The apparent condition and use of adjacent properties	The adjacent properties comprise residential and light commercial sites: North: Residential properties. East: A residential property, an automotive workshop, an automotive dent repair and communication (CB radio, mobile, etc) businesses. The automotive workshop immediately adjacent to the site was entered and the proprietor was asked about the presence of underground tanks. He responded that no tanks were present. No evidence of underground tanks was observed. An electric hoist was present South: Residential properties (**Photograph 11**) with an automotive mechanical workshop located approximately 60 m southeast of the site. West: A commercial property, namely a shower screen, security doors, robe, glazing business and IT business. The southern portion of the neighbouring property was used for car parking and storage area (**Photograph 9**). No signs of chemical/fuel storage tanks were observed at this commercial property. Residences were further to the west.
K	Location of settlement ponds.	There were no settlement ponds present on-site.

3.5 Interview with Previous Owner

At Senversa's request, the client contacted the head office of the previous site occupier (Armaguard) with enquiries about historical site practices. An Armaguard representative confirmed the following in writing (email correspondence):

- The open area in the southern half of the site (including the open-sided shed) was for used for vehicle parking only.
- There was no fuel storage or refuelling on site.
- There was no vehicle servicing on site.

The information that the former owner provided was consistent with the review of historical information, including aerial and Google Street View photographs, and observations made during the site inspection. That is, there was no evidence of vehicle servicing or refuelling at the site.

4.0 Initial Conceptual Site Model

4.1 Potential Sources of Contamination

Table 4-1 summarises the potential sources of contamination identified by the PSI. The mechanisms of contamination and typical laboratory analysis parameters used to indicate the presence of the identified chemicals of potential concern (CoPC) are also summarised.

Table 4-1: Potential Sources of Contamination.

Potential Contamination Source /Activity	Substances and Wastes with Potential to Cause Contamination	Potential Mechanism(s) of Contamination	Typical Indicator Laboratory Analytes for CoPC
General filling and building demolition associated with on-site and off-site structure	Various depending on the material origin – Commonly encountered CoPC include metals, petroleum hydrocarbons and asbestos containing material (ACM). Less commonly encountered CoPC include pesticides, phenolic compounds, cyanide wastes, solvents, polychlorinated phenols, nutrients.	Residual contaminant concentrations in imported fill soils. Leaching from contaminants to groundwater.	TRH (C_6-C_{36}), BTEXN, PAHs, ACM, metals

4.2 Human and Ecological Receptors

Senversa understands that the owner intends to redevelop the site for medium density residential redevelopment (as a community care accommodation). On this basis, human receptors are expected to include the following:

- Residents / occupiers of the property.
- Commercial workers.
- Maintenance workers.

Potential ecological receptors of any site derived contamination are expected to be primarily limited to the following:

- Soil Invertebrates and other wildlife.
- Plants.
- Stormwater.
- Groundwater.

4.3 Potential and Complete Exposure Pathways

Future use of the site for medium density residential use is likely to permit some limited direct contact with soil as indicated in the development plans provided in **Appendix B**. During construction or sub-surface maintenance exposure to soil is also likely. For the receptors detailed above, the potential exposure pathways may include the following:

- Site users directly contacting, ingesting and/or inhaling dust from surface soils.
- Construction and maintenance workers' direct contact with contaminated site soils, inhalation of dust and ingestion through poor hygiene.
- Plant and invertebrate health within contaminated site soils.
- Wildlife directly contacting, ingesting and/or inhaling dust from surface soils.
- Contamination leaching from soil to groundwater.
- Stormwater runoff from contaminated soils / sediment.

5.0 Preliminary Risk Screen Assessment

The findings of the PSI (**Sections 2.0** and **3.0**) have been used to perform a PRSA of the site in accordance with the draft EPA Publication 2021 *Guideline for Conduct of Preliminary Risk Screen Assessments* (EPA 2021f).

5.1 PRSA Details

The details of the site, environmental auditor who performed the PRSA, the site owner and PRSA timeframe are presented in the **Executive Summary**.

5.2 Background and Reason for PRSA

The PRSA was undertaken to address a requirement from City of Ballarat, the planning authority, in response with a Certificate of Compliance Lodgement (Certificate No. COC/2021/009 dated 9 November 2021) due to the presence of an Environmental Audit Overlay over the site. A copy of the Certificate of Compliance is provided in **Appendix B**.

The auditor understands that Magellan Projects approached City of Ballarat and it confirmed it considered it appropriate to undertake a PRSA in response to the Environmental Audit Overlay.

5.3 PRSA Scope and Methodology

The PRSA scope and methodology is summarised as follows:

- The PRSA was conducted in accordance with the proposed draft guideline: *Guideline for Conducting Preliminary Risk Screen Assessments* (EPA 2021f).
- The site is planned to be redeveloped for residential purposes.
- The scope included collecting, reviewing and documenting information for the PSI and a site inspection by the auditor.

5.4 Elements of the Environment Assessed

All elements of the environment relevant to the potentially contaminated land are considered. This includes:

- Land environment (including soil vapour).
- Water environment (including groundwater and surface water).

5.5 Elements of the Environment Excluded

The following elements of the environment were excluded from the PRSA:

- Ambient air.
- Ambient sound.

5.6 Standards Considered

The following standards and guidelines were considered in the PRSA:

- *Environmental Reference Standard* 2021.
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013).
- *Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds,* Australian Standard: AS4882.1-2005 (Standards Australia 2005).
- *Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances,* Australian Standard: AS4882.2-1999 (Standards Australia 1999).
- EPA guidelines relevant to contaminated land and water (as listed in **Section 7.0**).

5.7 Assumptions and Limitations

Assumptions and limitations are presented in **Section 6**.

5.8 Auditor Support Team Used

The auditor did not use any of his expert support team in conducting this PRSA.

5.9 Documentation Reviewed

The documentation reviewed for this PRSA are:

- An existing contamination investigation report for the site (refer to **Section 3.1**):
  - Provincial Geotechnical Pty Ltd (2021) *Preliminary Environmental Site Assessment*, ref no. 17120E, dated 22 June 2021 (provided as **Appendix F**).
- Environmental setting of the site (refer to **Section 2.2** of this report).
- Information gathered from the PSI (refer to **Section 3.0** of this report).

5.10 Quality and Completeness of Investigations

5.10.1 Preliminary Site Investigation

The auditor's review of the completeness of the PSI with reference to the requirements of the ASC NEPM (NEPC 2013) is documented in **Table 5-1**.

Table 5-1: Documentation of PSI Completeness

NEPM PSI Elements	Completed	Reference
Desktop Study	✓	Section 3 (not including Section 3.4 site inspection and Section 3.5 interview)
Current and historical aerial and ground photographs	✓	Section 3.2.9
Past involvement with government authorities or consultants including:		
Published environmental audits	✓	Section 3.3.5

NEPM PSI Elements	Completed	Reference
Groundwater quality restricted use zones	✓	Section 3.3.6
Pollution Notices including former and current EPA Victoria priority sites, EPA licenses and works approvals	✓	Section 3.3.1
Trade and street directories including (where available) Sands and McDougal Directories and UBD Business Directories	✓	Section 3.2.1
Local historical societies and State Library of Victoria	✓	Section 3.2.3
Historical titles back to original deeds	✓	Section 3.2.2
Local literature, including newspapers	✓	Section 3.2.4
Building permits/plans	✓	Section 3.2.10
Flammable and combustible liquid storage and handling licences (Worksafe and Energy Safe Victoria)	✓	Sections 3.2.11 and 3.2.12
Geological survey maps and reports	✓	Section 2.2.3
Coastal Acid Sulfate Soil maps and Atlas of Australian Acid Sulfate Soils	✓	Section 2.2.4
Groundwater/drinking water protection zones	✓	Not applicable in the region
Local historical societies and State Library of Victoria	✓	Section 3.2.3
Registered groundwater abstraction bores	✓	Section 2.2.6
Sewer and underground service plans (including historical Melbourne and Metropolitan Board of Works [MMBW] plans)	✓	Section 3.2.7 (MMBW plans are not available for the Ballarat area)
Site layout plans (if available from site owner)	✓	Enquiries were made but plans were not available
Site Inspection		
Current uses of the site and surrounding land	✓	Section 3.4
Disturbed, coloured or stained soil	✓	Section 3.4
Bare soil patches	✓	Section 3.4
Disturbed or distressed vegetation.	✓	Section 3.4
Unusual odour	✓	Section 3.4

NEPM PSI Elements	Completed	Reference
Quality of surface water	✓	Section 3.4
Sheens on water surfaces	✓	Section 3.4
Site topography and surface water drainage	✓	Section 3.4
Presence and type of groundwater bores on the site and adjacent landholdings	✓	Section 3.4
Condition of groundwater bore headworks.	✓	None present
Measurement of groundwater (water table and/or piezometric) levels.	✓	No bores present
Condition of buildings, concrete and bitumen floors and roads, etc.	✓	Section 3.4
Building construction (slab-on-ground or other, presence or absence of crawl spaces and basements).	✓	Section 3.4
The means of heating (fuel type) and cooling buildings on the site.	✓	Section 3.4
Presence or absence of bonded asbestos-containing materials (bonded ACM) on the ground surface.	✓	Section 3.4
Presence of stockpiles, fill, containment areas, sumps, drains and waste disposal areas operational and closed.	✓	Section 3.4
Evidence of cut and fill activities.	✓	Section 3.4
Presence of pits, ponds and lagoons.	✓	Section 3.4
Presence and condition of chemical containers, holding tanks, bunds, etc.	✓	Section 3.4
Presence and condition of any underground storage tanks (USTs) and associated infrastructure.	✓	Section 3.4
Underground structures that may be associated with sub-surface contamination.	✓	Section 3.4
Condition of materials storage and handling facilities and any solid or liquid waste disposal areas.	✓	Section 3.4
Any evidence of on-site spillage of dangerous goods and/or off-site migration.	✓	Section 3.4

NEPM PSI Elements	Completed	Reference
Interview		
Site Owner	✓	Section 3.5
Site Occupier	✓	Section 3.5
Neighbouring land owners	✓	Section 3.4

5.10.2 Previous Soil Investigation

The previous soil investigation (see **Sections 3.1** and **5.9**) (Provincial Geotechnical 2021) was undertaken prior to commencement of the PRSA. It was reviewed given it had already been completed but soil investigation was not considered necessary to complete the PRSA and form conclusions regarding the likelihood of contamination and need for an audit. Therefore, data presented in it was used as supplementary information and the quality and completeness of the data was not critical to completing the PRSA.

The following are comments on the quality and completeness of the previous soil investigation:

- It did not include any quality assurance/quality control (QAQC) sampling such as field duplicates, rinsate blanks, or data quality review. However, the laboratory which analysed the samples was NATA-accredited and internal laboratory QAQC measures were adopted.
- The scope included shallow soil sampling in the southern half of the site, where vehicles had been parked. It appears that the southern half of the site was targeted for investigation because the plans at the time indicated that only that part of the site would be developed. More recent plans (see **Appendix B**) include development of the whole site.

The previous soil investigation is considered adequate as a guide to the lithology at the site and shallow soil concentrations in the former vehicle parking area, noting it has been used as a guide only rather than a requirement of the PRSA.

5.11 Summary of Historical Land Use Activities

The summary of historical land use activities is as follows:

- Based on the earliest available records, individuals owned the site until 1964, when Mayne Nickless (a parent company of Armaguard) purchased it.
- The site was clear but had not been developed based on the earliest aerial photographs from the 1960s. It appeared to be used for truck parking at times during the 1960s, although there is no evidence of any structures having been built during that time.
- The first evidence of structures having been built was in the early 1970s, after Mayne Nickless's purchase of the site. The main building (Armaguard Depot) was constructed in the early 1970s. The only other structure built was an open shed used as a vehicle parking bay, which was constructed in the early 2000s.
- All buildings and structures (except some perimeter fencing) had been demolished sometime between November 2017 and September 2018.
- The only known uses of the site were for ad-hoc truck parking in the 1960s and as an Armaguard Depot from the early 1970s until approximately the end of 2017. There was no evidence of vehicle servicing and refuelling. Enquiries with Armaguard confirmed that vehicle servicing and refuelling had not been carried out at the site.

- At the time of this PRSA, including the site inspection, the site was vacant and disused, with only remnants of the perimeter fencing remaining.

5.12 Potential Sources of Contamination, Receptors and Pathways

The potential sources of contamination, receptors and pathways are presented in the initial conceptual site model (see **Section 4**). Based on the historical site uses the potential sources are limited to placement of fill and building demolition. It is noted that a site inspection and information reviewed in a previous soil investigation do not indicate the presence of demolition waste or contaminated fill.

The potential sources of contamination, receptors and pathways have been considered in assessing the likelihood of contamination at the site, in particular, the likelihood that contamination may impact on the proposed development.

5.13 Assessment of Site Condition

5.13.1 Likelihood of Contamination

Based on the history of land use at and surrounding the site and observations made during the site inspection the likelihood of contamination is considered to be low, in accordance with *Planning Practice Note 30 – Potentially Contaminated Land* (DELWP 2021). That is, none of the activities that occurred at the site fall within the "medium" or "high" categories listed in Table 2 of Planning Practice Note 30. The only potentially contaminating activities identified were potential filling and demolition of buildings. However, the review of evidence of historical uses and results of a previous soil investigation indicated that the potential for contamination from those potential sources was low. In addition, surrounding land uses were reviewed and the potential for them to impact the site was considered low. Although surrounding land uses included automotive maintenance, there was no evidence of underground storage tanks in the adjacent premises which was visited during the PRSA site inspection.

5.13.2 Potential Impacts on Environmental Values

Assessment of possible impacts on land and groundwater environmental values associated with the proposed use of the site are documented in **Table 5-2** and **Table 5-3**.

Table 5-2: Potential Impacts on Applicable Environmental Values of Land

Environmental Value	Comment
Land dependent ecosystems and species **Production of food, flora and fibre**	Based on historical uses and the results of soil sampling, there is no indication of contamination and likely impacts to land dependent ecosystems and species, and the production of food, flora and fibre.
Human health	Based on historical uses and the results of soil sampling, there is no indication of contamination and likely impacts to human health in the context of residential use.
Buildings and structures	There is no evidence of soil conditions that would be harmful to buildings and structures.
Aesthetics	There is no evidence of aesthetic impacts.

Table 5-3: Potential Impacts on Applicable Environmental Values of Groundwater

Environmental Value	Comment
Water dependent ecosystems and species	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Potable water supply	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Potable mineral water supply	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Agriculture and irrigation (irrigation and stock watering)	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Industrial and commercial	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Water-based recreation (primary contact recreation)	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Traditional Owner cultural values	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Buildings and structures	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.
Geothermal properties	Based on historical uses and the results of soil sampling, the site is considered unlikely be a potential source of groundwater contamination.

Potential Impacts on Protected Beneficial Uses of Surface Water

Contamination of surface water (stormwater runoff) at the site is considered unlikely based on historical uses. In addition, supplementary information presented in a previous soil investigation did not identify and contamination within soil that would impact stormwater runoff.

5.13.3 Potential Impacts on Proposed Development

As discussed in **Sections 5.13.1** and **5.13.2**, the auditor considers there is low potential for contamination at the site and impacts to land and water (groundwater and surface water) environmental values are not likely. Therefore, there are not considered to be any likely detrimental impacts to the proposed residential development.

5.14 Consideration of the need for Environmental Audit

Based on the low potential for contamination and impacts to environmental values (see summaries in **Sections 5.13.1** and **5.13.2)** an environmental audit is not required.

5.15 Conclusion

Based on the information reviewed as part of the PRSA, the outcome of the PRSA is as follows:

- The PRSA has found it unlikely that the site is contaminated land. Therefore, an environmental audit would not be required for the use or proposed use of the site. This outcome is in line with the definition of contaminated land in the Environment Protection Act 2021 under section 35(1)(b), whereby the definition considers the creation of a risk of harm to human health or the environment regarding the environmental values of land and water in the ERS. Since the assessment has found it unlikely that the site is contaminated land, no assessment of a created risk of harm to human health or the environment in an environmental audit would be necessary.

A copy of the PRSA statement is provided in **Appendix A**.

6.0 Assumptions and Limitations

This PRSA was prepared for Magellan Projects (Vic) Pty Ltd in accordance with Division 2 of Part 8.3 of the *Environment Protection Act 2017.* This PRSA assessed the likelihood for contaminated land for a proposed use as residential 'sensitive – other' as discussed in **Section 1.3**. If the site is to be used for other land uses not assessed in the PRSA, further assessment such as another PRSA may be warranted. The scope of work performed as part of the PRSA process may not be appropriate to satisfy the needs of any other person. The PRSA report has been prepared to satisfy a requirement for the redevelopment the site.

The PRSA is based on a review of the available information for the site at the time of assessment, available assessment reports attached to the PRSA and site inspections conducted by the auditor and their representatives. PRSA reports are based on the conditions encountered and information reviewed at the time of preparation, and do not represent any changes that may have occurred since the date of completion.

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 PRSA and this report are limited by and rely upon the scope of the review, and the information provided by the Magellan Projects (Vic) Pty Ltd and their consultants and representatives through documents provided to the auditor. 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 PRSA.

7.0 References

Legislation and Regulations

State of Victoria, *Environment Protection Act 2017*.

State of Victoria, *National Environment Protection Council (Victoria) Act* 1995.

State of Victoria, *Environment Protection Regulations* 2021, S.R. No. 47/2021 (25 May 2021).

State of Victoria, *Environment Reference Standard,* Victoria Government Gazette No. S245 (26 May 2021).

General References

Department of Environment, Land, Water and Planning (2021) Potentially Contaminated Land, Planning Practice Note 30, July 2021.

EPA (2007) *Environmental Auditor Guidelines for Conducting Environmental Audits*, Publication 953.2, Environment Protection Authority Victoria.

EPA (2015) *Siting, design, operation and rehabilitation of landfills*, Publication 788.3, Environment Protection Authority Victoria.

EPA (2020) *Reasonably Practical*, Publication 1856, Environment Protection Authority Victoria.

EPA (2021a) *Guide to the Environment Protection Regulations,* Publication 1753.2, Environment Protection Authority Victoria.

EPA (2021b) *Contaminated Land Policy*, Publication 1915, Environment Protection Authority Victoria.

EPA (2021c) *Contaminated Land: Understanding Section 35 of the Environment Protection Act 2017*, Publication 1940, Environment Protection Authority Victoria.

EPA (2021d) *Guide to the Environment Reference Standard*, Publication 1992, Environment Protection Authority Victoria.

EPA (2021e) *Guidance for the Cleanup and Management of Contaminated Groundwater*, Publication 2001.1, Environment Protection Authority Victoria.

EPA (2021f), *Guideline for Conducting of Preliminary Risk Screen Assessments,* draft EPA Publication 2021, dated November 2021, Environment Protection Authority Victoria.

Ministerial Direction No. 1 – Potentially Contaminated Land 2021.

NEPC (2013) *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)*, Adelaide: National Environment Protection Council.

Standards Australia (1999) *Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances,* Australian Standard: AS4882.2-1999.

Standards Australia (2005) *Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds,* Australian Standard: AS4882.1-2005.

Standards Australia (2009) *Piling - Design and Installation,* Australian Standard: AS2159-2009.

Site-specific Reference

Provincial Geotechnical (2021) *Preliminary Environmental Site Assessment*, ref no. 17120E, 22 June 2021.

Figures

Figure 1: Site Location

senversa

Legend
- Site Boundary
- Property Bounadry

Notes:
Aerial Imagery (20/10/2021) © Nearmap

Created:	M. Byrne	Date:	10/12/2021
Reviewed:	A. Dimaano	Revision:	0
Approved:	XXX	Scale:	1:750 (A3)
File:	M19400_002_F001_Site Location		

0 5 10 20 30 40 50 Metres

Coordinate System: GDA 1994 MGA Zone 55

Figure No: 1

Title: Site Location

Project: Preliminary Screen Risk Assessment

Location: 605C La Trobe Street, Redan Victoria 3350

Client: Magellan Projects Pty Ltd

Path: S:\01_Jobs\3.VIC_Jobs\M19400_MAGELLAN PROJECTS_REDAN_PRSA\APRX\M19400_002_PSRA.aprx

Appendix A: Preliminary Risk Screen Assessment Statement

Preliminary risk screen assessment statement

Under Part 8.3 of the *Environment Protection Act 2017*

Publication F1031 published September 2021

This statement is a summary of the findings of a preliminary risk screen assessment conducted under Part 8.3 of the *Environment Protection Act 2017* for:

605C La Trobe Street, Redan VIC 3350

Further details are provided in the preliminary risk screen assessment report that accompanies this statement.

Section 1: Preliminary risk screen assessment overview

Environmental auditor details

Name:	Douglas Ahearne
Company:	Senversa Pty Ltd
Address:	Level 6, 15 William St, Melbourne
Phone:	0411 538 823
Email:	doug.ahearne@senversa.com.au

Site owner/occupant

Name:	
Company:	Magellan Developments (Vic) Pty Ltd

Environmental auditor engaged by

Name:	Tom Baldi
Company:	Magellan Developments (Vic) Pty Ltd
Relationship to site owner:	Employee of Magellan Developments (Vic) Pty Ltd

Reason for preliminary risk screen assessment

Planning scheme:	Requirement in Certificate of Compliance that Ballarat City Council issued
Other:	

Section 2: Assessment scope

Site details

Address:	605C La Trobe Street, Redan VIC 3350
Title details:	Plan CP164654
Area (hectares):	0.1868

☒ a plan of the site is attached

Use or proposed use assessed

☒ Sensitive use (including land used for residential use, a child care centre, pre-school, or primary school) or secondary school or children's playground
- ☐ high density
- ☒ other (lower density)

☐ Recreation/open space
☐ Parks and reserves
☐ Agricultural
☐ Commercial
☐ Industrial
☐ Other

Environmental elements assessed

☐ Ambient air
- ☐ all environmental values were considered **OR**
- ☐ all environmental values other than the following were considered:

☐ Ambient sound
- ☐ all environmental values were considered **OR**
- ☐ all environmental values other than the following were considered:

☒ Land
- ☒ all environmental values that apply to the land use category were considered **OR**
- ☐ all environmental values that apply to the land use category, other than the following, were considered:

☒ Water
- ☒ Surface water
  - ☒ all environmental values that apply to the applicable segment were considered **OR**
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:
- ☒ Groundwater
  - ☒ all environmental values that apply to the applicable segment were considered **OR**
  - ☐ all environmental values that apply to the applicable segment, other than the following, were considered:

Standards considered

Environment Reference Standard 2021
National Environment Protection (Assessment of Site Contamination) Measure 1999

Guide to the Investigation and Sampling of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds, Australian Standard: AS4882.1-2005 (Standards Australia 2005)
Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances, Australian Standard: AS4882.2-1999 (Standards Australia 1999)

Assumptions made during the assessment or any limitations

This PRSA is only assessing the likelihood for contaminated land for a proposed use as residential 'sensitive use – other'. If the site is to be used for other land uses not assessed in the PRSA, further assessment such as another PRSA may be warranted.

Exclusions from the assessment and the rationale for these

Ambient air and ambient sound environmental values have not been considered, because they are not relevant to the currently vacant site which is proposed to be redeveloped for residential use.

This statement is accompanied by the following preliminary risk screen assessment report

Title:	Preliminary Risk Screen Assessment, 605C La Trobe Street, Redan, 3350, VIC
Report no:	280122_REDAN
Date:	28 January 2022

Section 3: Assessment outcome

Based on my assessment, I am of the opinion that an environmental audit is **not required** for the following land uses, **including** the use or proposed use for which the site has been assessed:

(Tick as appropriate and strike out those uses not assessed and for which the need for an audit has not been determined)

- ☒ Sensitive use (including land used for residential use, a child care centre, pre-school, or primary school) or secondary school or children's playground
  - ☒ high density
  - ☒ other (lower density)
- ☒ Recreation/open space
- ☒ Parks and reserves
- ☒ Agricultural
- ☒ Commercial
- ☒ Industrial
- ☐ ~~Other~~

Section 4: Environmental auditor's declaration

I state that:

- I am appointed as an environmental auditor by the Environment Protection Authority Victoria under the *Environment Protection Act 2017*.
- The findings contained in this statement represents a true and accurate summary of the findings of the preliminary risk screen assessment that I have completed.

Date:	28 January 2022
Signed:	
Name:	Doug Ahearne
	Environmental Auditor

CP164651S

LATROBE STREET

97·09

89° 52′

18·29

ADAIR STREET

359° 08′

34·14

89° 52′

18·29

359° 08′

34·14

1868 m²

359° 08′

68·14

36·58

269° 52′

FOSTER STREET

OFFICE USE ONLY

CP 164651S

NOTATIONS

E-1 DRAINAGE & SEWERAGE EASEMENT VIDE L.P. 43960

CHART No. 23

CERTIFICATION BY SURVEYOR

I certify that this plan has been made by me or under my immediate supervision and accords with title.

LICENSED SURVEYOR

DATED 4. 12. 1986

PLAN APPROVED

(ASSISTANT) REGISTRAR OF TITLES 19-5-87

THE LAND TO BE CONSOLIDATED IS SHOWN ENCLOSED BY CONTINUOUS THICK LINES

TITLE REF: VOL. 8224 FOL. 178 VOL 8458 FOL 822 (Pt)

LAST PLAN REF:

PLAN OF CONSOLIDATION

COUNTY GRENVILLE

PARISH BALLARAT

TOWNSHIP BALLARAT

SECTION 92

CROWN ALLOTMENT 4 (PART)

SCALE 10 5 0 10 20 LENGTHS ARE IN METRES

ORIGINAL SCALE 1:500 SHEET SIZE A3

OFFICE USE ONLY

CP 164651S

VICTORIA

SEAL AND ENDORSEMENT OF MUNICIPALITY

MUNICIPALITY CITY OF BALLAARAT COUNCIL REF. 2809

Sealed Pursuant to the provisions of Sec. 569 A B of the Local Gov. Act

DATED the 4th day of February 1987

THE COMMON SEAL OF THE CORPORATION styled the MAYOR, COUNCILLORS AND CITIZENS OF THE CITY OF BALLAARAT was affixed hereto in the presence of:-

..... MAYOR

..... COUNCILLOR

..... TOWN CLERK

I. G. BISHOP & A. A. JEFFREYS PTY. LTD.
33 LYDIARD STREET SOUTH,
BALLARAT, 3350

SURVEYORS REF. SB 4149

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm