



MFS Oakden Station


Preliminary Site Investigation

South Australian Metropolitan Fire Service

26 April 2023

→ **The Power of Commitment**



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GHD Pty Ltd | | ABN 39 008 488 373

211 Victoria Square, Level 4

Adelaide, South Australia 5000, Australia

T +61 8 8111 6600 | **F** +61 8 8111 6699 | **E** adlmail@ghd.com | **ghd.com**

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Executive summary

GHD Pty Ltd (GHD) was engaged by the South Australian Metropolitan Fire Service (MFS) to prepare this Preliminary Site Investigation (PSI) for the Oakden Fire Station, located at 700 Grand Junction Road, Oakden, South Australia 5086 (the site). This PSI is limited to potential contamination resulting from the historic use of firefighting foam containing per- and poly-fluoroalkyl substances (PFAS). Other potential contaminating activities and related contaminants of concern are not included in this assessment. This report is subject to, and must be read in conjunction with, the limitations set out in Section 3 and the assumptions and qualifications contained throughout the report.

The purpose of the PSI is to address the action required in the South Australian (SA) Environment Protection Authority (EPA) letter EPA GENI 62917. The letter states the need to develop a plan of proposed works to address high risk MFS sites, of which the Oakden station is included. The SA EPA letter can be found in Appendix A.

The objectives of this PSI are in accordance with the appropriate guidance and legislation as outlined in Section 1.4 and include the following:

- Determine the potential presence of PFAS impacts associated with historical use of firefighting foam at the site.
- Identify and assess any potential risks to human health and/or the environment as a result of the identified and / or potential PFAS impacts, in the context of the site's continued commercial/industrial use and the relevant land uses associated with any potentially affected off-site properties.

The scope of works for the PSI is summarised below:

- Desktop assessment and site inspection to determine the site history and historical activities which may have contributed to PFAS contamination of the site and surrounds
- Identification of sensitive land uses, groundwater bore usage and ecological receptors to determine potential environmental values of groundwater/surface water in the vicinity of the site.
- Development of a Preliminary Conceptual Site Model (PCSM), comprising an assessment of PFAS source areas, pathways, and receptors.
- Preparation of a PSI report.

Based on the results of this investigation, the following conclusions have been made:

Potential nature and extent of PFAS impacts on-site and off-site:

- Documented information confirmed the historical use (during training activities) and storage of PFAS containing firefighting foam on-site after the official opening of the Oakden Fire Station in 1991.
- Anecdotal information provided by the Oakden Fire Station Officers, confirmed that the PFAS containing firefighting foam was occasionally dispersed beyond the site boundaries during training, often to the south and less regularly to the east and the west.
- Minimal soil sampling (three locations) has been undertaken on-site to date with all samples exceeding the PFAS National Environmental Management Plan (NEMP) 2.0 (HEPA 2020) human health investigation level (HIL) residential with garden / accessible soil HIL A guideline and one sample exceeding the HIL C public open space guideline. All soil samples exceeded the PFAS NEMP 2.0 Interim Ecological Indirect Exposure guideline and one sample exceeded the PFAS NEMP 2.0 Ecological Direct Exposure guideline.
- Two water samples taken from the semi-underground Fire Water Pump Tank (1.5 m deep) exceeded the PFAS NEMP 2.0 Health Drinking Water guideline.
- While PFAS contamination has been confirmed in soil and stored water at the site, it's extent and potential groundwater impacts have not been determined.

Potential risks to human health and the environment as a result of historical PFAS activities at the site:

The Preliminary Conceptual Site Model (PCSM) identified the following potentially complete PFAS exposure pathways:

- Exposure of site users, visitors, maintenance and construction workers to PFAS via direct dermal contact with contaminated soil, incidental ingestion of contaminated soil or inhalation of contaminated soil / dust from disturbed soils.
- Exposure of site users, visitors, maintenance and construction workers to PFAS via direct dermal contact with PFAS impacted concrete / bitumen surfaces or inhalation of contaminated dust from such surfaces.
- Exposure of future residential occupants in the proposed residential development on the land surrounding the site via direct dermal contact with contaminated soil, incidental ingestion of contaminated soil or inhalation of contaminated soil / dust from disturbed soils.
- Exposure of terrestrial fauna and flora to PFAS via direct contact with contaminated soil, ingestion of contaminated soil or bioaccumulation through indirect contact.
- Leaching of PFAS from contaminated soils or concrete / bitumen surfaces followed by migration through porous media into groundwater.
- Consumption of contaminated groundwater extracted off-site for domestic / drinking purposes.
- Consumption of fruit and vegetables grown off-site where plants were irrigated with contaminated groundwater or where plant roots accessed shallow contaminated groundwater. It should be noted that no edible vegetation is present at the site.
- Incidental ingestion of contaminated groundwater extracted off-site for recreational purposes such as filling of swimming pools.
- Fresh water aquatic life found in surface water receptors such as Dry Creek

Recommendations

GHD recommends that a SAQP be prepared to undertake further intrusive investigations to determine the nature and extent of identified PFAS impacts in on-site and off-site areas associated with historical activities at the site and to identify and assess any potential risks to human health and the environment in the context of relevant current and potential future land uses.

Table of abbreviations

Abbreviation	Full form
AFAC	Australasian Fire and Emergency Service Authorities Council
AFFF	Aqueous Film-Forming Foam
AHD	Australian Height Datum
ASC NEPM	<i>National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013</i>
CoPC	Chemicals of Potential Concern
FTS	Fluorotelomers
GAR	South Australian <i>Guidelines for the Assessment and Remediation of Site Contamination 2019</i>
GHD	GHD Pty Ltd
HEPA	Heads of Environment Protection Authorities Australia
m bgl	Metres Below Ground Level
MFS	South Australian Metropolitan Fire Service
mg/L	Milligrams / Litre
NEMP	PFAS National Environmental Management Plan Version 2.0 - January 2020
NEPC	National Environmental Protection Council
NHMRC	National Health and Medical Research Council
PCSM	Preliminary Conceptual Site Model
PFAS	Per- and Poly-Fluoroalkyl Substances
PFHxS	Perfluorohexane Sulfonate
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PSI	Preliminary Site Investigation
SA EPA	South Australian Environment Protection Authority
SAQP	Sampling and Analysis Quality Plan
SPR	Source-Pathway-Receptor
SWL	Standing Water Level
TDS	Total Dissolved Solids
WQEP	South Australian <i>Environmental Protection (Water Quality) Policy 2015</i>

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1. Introduction

GHD Pty Ltd (GHD) was engaged by the South Australian Metropolitan Fire Service (MFS) to prepare this Preliminary Site Investigation (PSI) for the Oakden MFS fire station, located at 700 Grand Junction Road, Oakden, South Australia 5086 (the site). The site location and layout plans are shown in Figure 1 and Figure 2 respectively.

This PSI is limited to assessing the potential impacts from the historical use of firefighting foam containing per- and poly-fluoroalkyl substances (PFAS). Other potential contaminating activities and related contaminants of concern are not included in this assessment. The purpose of the PSI is to address the action required in the South Australian (SA) Environment Protection Authority (EPA) letter EPA GENI 62917. The letter states the need to develop a plan of proposed works to address high risk MFS sites, of which the Oakden station is included. The SA EPA letter can be found in Appendix A.

1.1 Background

The Oakden Fire Station was officially opened in 1991 as a fire station. It is staffed by fulltime firefighters who provide 24-hour emergency response, 365 days of the year.

Historically, the MFS have used aqueous film-forming foams (AFFF) containing PFAS at the site during training activities. However, it is understood that the MFS commenced phasing out the use of firefighting foams containing perfluorooctane sulfonate (PFOS) in 2007 and perfluorooctanoic acid (PFOA) in 2014 after conducting consultation and liaison with the Australasian Fire and Emergency Service Authorities Council (AFAC) and the SA EPA. The MFS replaced all firefighting foam in 2016 to ensure that only fluorine-free foam was in use. Currently, state-wide, all MFS appliances carry firefighting foams that do not contain PFOS or PFOA and are fluorine-free. During 2017/2018, the MFS removed all fire extinguishers containing PFAS. Currently, state-wide, all MFS appliances carry firefighting foams that do not contain PFOS or PFOA and are fluorine-free.

In 2022, GHD undertook a site history review of 17 MFS sites (GHD 2022), and inspections of eight metropolitan sites to support environmental risk profiling using a multi-criteria analysis approach. The work was required to address the potential risks associated with former use of AFFF containing PFAS. The sites were prioritised to assist with the implementation of appropriate assessment and management measures to address the potential PFAS risks. The GHD 2022 Report was provided to the SA EPA, who subsequently issued a letter dated 1 February 2023 (EPA GENI 62917) with the requirement of “a plan of proposed works and associated timelines to address the highest risk sites” (refer Appendix A).

To assist the MFS in meeting the requirements of the SA EPA, GHD proposed the preparation of a PSI for the high-risk MFS fire stations to assist in the future development of a Sampling and Analysis Quality Plan (SAQP) and further detailed investigations at the site. The Oakden MFS fire station was identified as one of the eight high priority sites.

1.2 Objectives

The objectives of this PSI are in accordance with the appropriate guidance and legislation as outlined in Section 1.4 and include the following:

- Determine the potential presence of PFAS impacts associated with historical use of firefighting foam at the site.
- Identify and assess any potential risks to human health and/or the environment as a result of the identified and / or potential PFAS impacts, in the context of the site’s continued commercial/industrial use and the relevant land uses associated with any potentially affected off-site properties.

1.3 Person requesting works

The work was requested by:

Mr Jeff Swann, Assistant Chief Fire Officer, Metropolitan Operations- Central and Special Operations, SA MFS, 99 Wakefield St, Adelaide SA 5000.

1.4 Methodology

The PSI methodology was in general accordance with the following industry guidelines:

- Gov SA 1993, South Australian *Environment Protection Act 1993* (Gov SA 1993) and associated regulations.
- NEPC 1999, *National Environmental Protection (Assessment of Site Contamination) Measure 1999* (as amended May 2013) (ASC NEPM).
- SA EPA 2019, *Guidelines for the assessment and remediation of site contamination* (GAR).
- HEPA 2020, *PFAS National Environmental Management Plan, Version 2.0, January 2020*, (PFAS NEMP).

1.5 Previous investigations

Previous PFAS investigations at the Oakden Fire Station were carried out by GHD in 2018 and 2022; and are documented in the following reports:

- GHD (2018) *MFS Environmental Investigation, Oakden Fire Station*, Report prepared for the South Australian Metropolitan Fire Service by GHD Pty Ltd, October 2018.
- GHD (2022) *MFS 17 Fire Stations PFA Risk Profiling*, Report prepared for the South Australian Metropolitan Fire Service by GHD Pty Ltd, October 2022.

Locations sampled at the Oakden Fire Station as part of these investigations are presented in Figure 3.

1.5.1 GHD (2018) MFS Environmental Investigation Oakden Fire Station

The purpose of the environmental investigation undertaken at the Oakden Fire Station in 2018 was to determine if there was PFAS present within surface soils and stored water at the site (GHD 2018).

During the GHD (2018) investigation, the following samples were collected and tested for PFAS:

- Two stored water samples (SW1 and SW2) were collected from the Fire Water Pump Tank at the surface (SW1) and at the deepest point of the tank at 1.5 m (SW2). It is noted that the Tank has been decommissioned and backfilled since the 2018 investigation.
- SW1 and SW2 reported detectable PFAS concentrations, with the sum of perfluorohexane sulfonate (PFHxS) and PFOS concentrations in both samples and a field duplicate of SW1 exceeding the PFAS NEMP Health Drinking Water guideline (0.07 µg/L).
- Three soil samples were collected (S1, S2 and S3) from the following locations; in the vicinity of the two on-site sheds (S1), adjacent the former Tank (S3) and, the former raised vegetable garden. Samples were collected from depth of between 0.2 and 0.3 metres below ground level (m bgl).
- All samples (including the field duplicate of S1) reported PFOS and the sum of PFHxS and PFOS concentrations exceeding the 2018 PFAS NEMP Interim Ecological Indirect Exposure and Residential guidelines.
- S1 and its field duplicate pair reported concentrations of Sum of PFHxS and PFOS exceeding the 2018 PFAS NEMP guideline for Human Health Public Open Space (1 mg/kg) and Residential with garden/access to soil (2 mg/kg).
- Minimal soil sampling has been undertaken on-site to date with one sample exceeding the PFAS National Environmental Management Plan (NEMP) 2.0 (HEPA 2020) human health investigation level (HIL) residential with minimal garden / accessible soil HIL B guideline. All soil samples exceeded the PFAS NEMP 2.0 Interim Ecological Indirect Exposure guideline and one sample exceeded the PFAS NEMP 2.0 Ecological Direct Exposure guideline.
- Two surface water samples taken from the Fire Water Pump Tank exceeded the PFAS NEMP 2.0 Health Drinking Water guideline.

The 2018 sampling locations are outlined in Figure 3.

It is noted that the 2018 PFAS NEMP guidelines were used in this report, which were superseded by the 2020 PFAS NEMP 2.0. However, this has no practical impact on the purposes of this report as the guideline values for soil at commercial / industrial properties are the same in both versions of the PFAS NEMP. In the 2020 PFAS NEMP 2.0, environmental guidelines values that refer to the sum of PFOS and perfluorohexane sulfonate (PFHxS) now explicitly apply not only to the sum of the two but also to PFOS only and to PFHxS only, which was only inferred in the 2018 PFAS NEMP 1.0. It should be noted that there is a new version of the PFAS NEMP currently in review (3.0).

1.5.2 GHD (2022) MFS 17 Fire Stations PFAS Risk Profiling

The Oakden fire station was part of a 2022 desktop risk assessment and multi-criteria analysis (MCA) carried out at 17 MFS fire stations across South Australia to support appropriate risk management approaches associated with potential or identified PFAS contamination. The 17 sites required for prioritisation, including Oakden, were identified by the SA EPA in the letter GENI 62485 dated 21 October 2021.

The report presented the methodology and findings of the PFAS risk profiling for the 17 MFS fire stations with identified PFAS impacts in soil. The desktop review focused on identifying historical activities that may represent a source of PFAS contamination and potentially sensitive human or ecological receptors in the vicinity of the sites as well as understanding potential source-pathway-receptor linkages that may be present.

The report provided a summary of the sites' prioritisation for further assessment based on their potential to cause harm to the environment and/or human health. The Oakden MFS fire station was classified as high-risk with high priority for further investigation of PFAS contamination for the following reasons:

- Estimated historical on-site use of AFFF concentrate
- Depth to groundwater and risk of AFFF infiltration to groundwater
- Distance to closest surface water body
- Residential land use adjacent the site (in development)

2. Scope of works

The scope of works for the PSI is summarised below:

- Desktop assessment of the site history and historical activities which may have contributed to PFAS contamination of the site and surrounds including a review of
 - Past and current ownership and occupier details and certificates of title
 - Past and current aerial photography
 - State and local government records including SA EPA Public Register records
- Review of available information regarding the local geology, hydrogeology and hydrology, including the state groundwater database and geological maps.
- Review of available soil, sediment, surface/stored water and groundwater data from previous environmental investigations undertaken at the site and surrounding the site.
- Identification of sensitive land uses, groundwater bore usage and ecological receptors to determine potential beneficial uses of groundwater/surface water in the vicinity of the site.
- A site inspection and interviews with site personnel to confirm features documented in the desktop review and update the site history with respect to stormwater management, high-risk historical activities such as foam spill events, on-site storage of large quantities of PFAS containing foam and on-site or potential off-site fire-training activities and overspray.
- Development of a preliminary Conceptual Site Model (CSM), comprising an assessment of PFAS source areas, pathways, and receptors.
- Preparation of a PSI report.

Some of the background information relating to environmental settings, historical ownership and land use of the site and surrounding properties was obtained via the following Lotsearch report included in Appendix B.

- Lotsearch (2023), 700 Grand Junction Road, Oakden, SA 5086, Reference number LS040269 EP, prepared by Lotsearch Enviro Professional, 10 February 2023.

3. Limitations

This report: has been prepared by GHD for South Australian Metropolitan Fire Service and may only be used and relied on by South Australian Metropolitan Fire Service for the purpose agreed between GHD and South Australian Metropolitan Fire Service as set out in Section 1 of this report.

GHD otherwise disclaims responsibility to any person other than South Australian Metropolitan Fire Service arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report. GHD has prepared this report on the basis of information provided by South Australian Metropolitan Fire Service and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

4. Site information

Unless otherwise stated the information within this PSI report was obtained from Lotsearch Report Reference Number LS040269 EP provided in Appendix B.

4.1 Site details

Site details are summarised in Table 1 below.

Table 1 Summary of general site identification information

Item	Detail
Site Address	700 Grand Junction Road, Oakden, SA 5086
Certificate of Title:	CR 5759/678
Legal Description:	H10600, Section 1655 in the Area Named Oakden, Hundred of Yatala
Local Government Authority:	City of Port Adelaide Enfield
Current Zoning:	Master Planned Neighbourhood
Property Owner:	South Australian Metropolitan Fire Service
Current Site Use:	Operational Fire Station
Area:	4802 m ²
Site Elevation:	87 m AHD

Copies of the current certificate of title (crown record) and excerpts from the South Australia Property and Planning Atlas (SAPPA 2023) including zoning information are provided in Appendix C. The site layout plan is shown in Figure 3.

4.2 Site drainage

The site topography is generally flat with the majority of the site sealed by hardstand. Stormwater is collected in a sump in the rear yard through drains which is discharged to the public stormwater system. The public stormwater system is eventually discharged to Dry Creek.

Historically, after exercises and/or incidents involving AFFF use, appliances, equipment and tanks were washed down in the back yard and rear apron of the engine room. There was a wash down bay installed for the trucks however the date of this installation is not known. The wash down water was directed towards the garden or managed as stormwater and discharged off-site.

There was dam at the eastern side of the back yard which was filled in by 2021. The tank contained approximately 9,000 to 10,000 L of water which was circulated during exercises and was topped up with rainwater and mains water from appliances. MFS staff stated that AFFF did enter the tank and the water often appeared 'sudsy'.

Some of the surface water does pool in the yard during rainfall events. Stormwater has not been known to be harvested.

4.3 Site Inspection and description

The site is located on Grand Junction Road, approximately 640 m east of the Walkleys Road / Sudholz Road / Grand Junction Road intersection. Vehicle access to the site was from Grand Junction Road via a driveway along the eastern side. The site is currently used as an operational fire station. A site inspection was conducted by GHD field staff on 21 June 2022. It was observed that the infrastructure on-site consisted of the main building with engine bay on the northern half of the property, two storage sheds and a training tower near the southern site boundary, a decommissioned diesel underground storage tank (UST) near the eastern boundary and a sealed concrete rear yard on the southern half of the property. It was reported that the rear yard was used for car parking along the western boundary and for recreational, training and washdown (adjacent engine bay) purposes. It was observed that all edible vegetation, such as fruit and vegetables, have been removed from the site.

A front garden was observed and 6-10 m wide unsealed strips with trees and an irrigation system to prevent the clayey soil from cracking along the eastern, southern and western boundary.

Site photographs from the site inspection are presented in Appendix D.

4.4 Historical PFAS use

A questionnaire regarding the historical use of AFFF at the site was circulated to MFS staff. Two Surveys were completed, one survey was completed on 21 June 2022 by Station Officers and the second was completed by an officer on 1 July 2022 as part of the MCA works. The station officers who had been working at the site for a number of years and provided relevant historical anecdotal information in an interview during the site inspection on 21 June 2022. Copies of the completed surveys can be found in Appendix E.

Historically, foam training exercises using AFFF were conducted monthly by each of the four shifts so that approximately 48 training events took place per year. PFAS containing AFFF was known to be used for training exercises since the opening of the station in March 1991. External drafting exercises were carried out up to two times a year by each shift, meaning up to eight of these trainings were carried out in a year. Foam training occurred over the whole of the backyard, which had an unsealed garden area on either side of the fence with the remainder of the area a sealed surface. Training also occurred on the unsealed lawn area in the north-western portion of the site and on the concrete hardstand in the south-eastern portion of the site. This is outlined in Figure 2

The volume of AFFF historically used per training exercise was estimated between 0.25 - 0.5 L and for external drafting exercises approximately 20 litres (L). The stored AFFF was transferred to the appliances by pouring directly into the foam tank for top-up, and for the external drafting exercise the AFFF was sucked from its container into the appliance using a Venturi Manifold. During the training exercises the AFFF was generally dispersed aerially over the whole training area and possibly up to 20 m beyond the southern fence line (mostly 5-10 m). Sometimes foam was dispersed to the east and very rarely to the west of the site.

After exercises and/or incidents involving AFFF use, appliances, equipment and tanks were washed down in the back yard and rear apron of the engine room. There was a wash down bay installed for the trucks however the date of this installation is not known. The wash down water was directed towards the garden or managed as stormwater and discharged off-site. Foam and wastewater from the training events was allowed to soak into the ground or discharged off-site into the public stormwater system.

4.5 Historical storage of PFAS

Historically, two or up to four 20 L containers of AFFF concentrate were stored for training purposes on-site in the 'store' (which is now the gym) then the storage shed in the southern portion of in the site. AFFF was also stored within the appliances' 200L tanks. The stored AFFF was transferred to the appliances by pouring directly into the foam tank for top-up, and for the external drafting exercise the AFFF was sucked from its container into the appliance using a Venturi Manifold. Used / empty AFFF drums were returned to the store (Adelaide MFS Station).

4.6 Surrounding land uses

Land use surrounding the site is summarised in Table 2. Land uses and zoning are shown on Figure 4.

Table 2 Land uses and zoning

Orientation	Description of Land Use	Zoning (Municipal Council)	Zoning (SAPPA)
North	Grand Junction Road, Adelaide Women's Prison and Adelaide Pre-Release Centre. Dry Creek runs behind the prison facilities followed by residential properties.	General Neighbourhood Open space	Public Institution
East	Land to the east and south is a mental health facility and the former disability services centre is located further to the south east.	Master Planned Neighbourhood General Neighbourhood	Public Institution
South		Master Planned Neighbourhood General Neighbourhood	Public Institution
West	The vacant land surrounding the Fire Station is being developed into a residential estate with green open spaces and parklands. The extent of this development is yet to be confirmed.	Master Planned Neighbourhood General Neighbourhood	Residential

5. Environmental setting

5.1 Topography and hydrology

The topography of the site and surrounding land is relatively flat and forms part of the Adelaide Plains, between Gulf St Vincent to the west, and the Mount Lofty Ranges to the east. The site sits at an elevation of approximately 87 m AHD.

Most of the site comprise sealed surfaces (buildings, concrete hardstand, bitumen, etc.) with the majority of stormwater discharging to off-site underground stormwater drains via a sump at the rear of the site then to stormwater drainage pipes as discussed in Section 4.2. A stormwater drain is located at the northern site boundary and runs beneath Grand Junction Road to the north, then along Grand Junction Road to the west (Gov SA 2022a).

5.2 Surface water

The nearest natural surface water body is Dry Creek, located approximately 425 m north of the site. Dry Creek flows in a north-westerly direction and discharges to the Barker Inlet of the Gulf St Vincent, approximately 9.5 km north-west of the site.

There is what appears to be a man-made water body approximately 220 m to the west of the site. This is connected to the stormwater system along grand Junction Road (Gov SA 2022).

5.3 Geology and soils

The Lotsearch report (2023) indicated that the site is characterised by Pooraka Formation, consisting of clay, sand and carbonate earth; silty with gravel lenses. Most common soil classification orders were identified to Chromosols, which are characterised by outwash plains with hard alkaline red soils, small areas cracking clay soils and various alluvial soils in the stream valleys.

The site lies within a region of extremely low probability of potential acid sulphate soil (PASS) occurrence.

5.4 Hydrogeology

According to the Department of Water, Land and Biodiversity Conservation (DWLBC) Report (Gerges 2006), the site lies within 'hydrogeological zone 4', which covers a large portion of the Golden Grove – Adelaide Embayment. It contains up to three Quaternary and two Tertiary aquifers, and a fractured rock aquifer. Each Tertiary aquifer consists mainly of thin layers of fine sand with low yield. Most of the Quaternary and Tertiary aquifers become thin, shallow and interconnected in the vicinity of the River Torrens. The shallow fractured rock aquifer near the River Torrens contains groundwater of low salinity and significant yield. The regional groundwater flow in the Q1 - Q3 aquifers is in north-westerly direction towards the Gulf St Vincent (Gerges 2006).

A search of the South Australian Resources Information Gateway (SARIG) database reported shallow groundwater in the vicinity of the site with standing water levels (SWL) of 5-10 m bgl, producing yields in the range of 0.5-2.5 litres/second. Groundwater salinity ranged from 1,500-3,000 mg/L total dissolved solids (TDS), indicating fresh to brackish water.

The Lotsearch report (Appendix B) included a search of the South Australian WaterConnect database (DEW 2022) for registered groundwater wells located within a 2 km radius of the site. The results are summarised as follows:

- There were 154 registered groundwater wells within a 2 km radius.
- Of these registered wells, two were listed as operational, 34 were listed as abandoned, 16 were listed as backfilled, two were listed as not in use, four were listed as dry, 22 were listed as having an unknown status and no status was listed for 74 wells.
- Of the two registered operational wells, one was listed as observation and one as irrigation; observation.
- Of the 93 wells with unknown or no registered status, 60 were for investigation purposes, nine for monitoring, two for environmental purposes, one for observation, one for irrigation, one for environmental / recreational purposes, one for environmental / recharge purposes and 32 had no purpose listed.

TDS data was available for 20 wells within the 2 km radius from the site and ranged between 440 mg/L and 4,537 mg/L, indicating fresh to brackish water. Of these groundwater well locations, one well had recorded TDS values below 1,200 mg/L. This well reported the lowest TDS value (440 mg/L) reported in 1999 for well number 6628-19941. This well is registered as a managed aquifer recharge well and has a status of not in use. It is located approximately 1.7 km south-west of the site.

5.5 Determination of environmental values

To assess the contamination status of groundwater at a site, the SA EPA provides a four-step process to determine the environmental values of groundwater and to determine if actual or potential harm to groundwater that is not trivial has occurred. The four-step process described in the *Guidelines on the assessment and remediation of site contamination* (SA EPA 2019) is described in Table 3.

Table 3 Four-step process for determining harm to groundwater

Process	Assessment
Step 1: Apply Table 3 of Schedule 1 of the 2015 Water Quality Environment Protection Policy (WQEPP, Gov SA 2015) based on TDS ranges	The Lotsearch report listed 151 registered bores located within a 2 km radius of the site. A total of 20 registered bores within the survey area had documented TDS data, ranging from 440 mg/L to 4,537 mg/L, indicating fresh to brackish water.
Step 2: Assess and identify surface water bodies within a 2 km buffer of the site	The nearest natural surface water body from the site is Dry Creek, located approximately 425 m north of the site. Dry Creek flows in a north-westerly direction and discharges to the Barker Inlet of the Gulf St Vincent, approximately 9.5 km north-west of the site. There is what appears to be a man-made water body approximately 220 m to the west of the site. This is connected to the stormwater system along grand Junction Road (Gov SA 2022).
Step 3: Review registered groundwater users in the WaterConnect database	A review of the Water Connect database provided in the Lotsearch report (Appendix B) identified a total of 154 registered bores within a 2 km radius of the site. The identified uses of the bores with operational or unknown status were observation (2), irrigation / observation (1), investigation (46), monitoring (9), environmental (2), exploration, (1) irrigation (1), environmental / recreational (2) and managed aquifer / environmental recharge (2).
Step 4: Application of the SA EPA recognised criteria for the most sensitive environmental value	The most sensitive environmental values to be applied to the site are PFAS NEMP 2020 Drinking Water for human health. The most sensitive environmental value for ecological receptors is the 99% freshwater ecological guidelines.

The environmental values for the site were identified to include:

- Potable use of groundwater
- Freshwater ecosystems
- Irrigation use of groundwater
- Recreational use of groundwater

6. Site history searches

6.1 Historical ownership summary

Information regarding the historical ownership of the MFS site was obtained from historical certificates of title (CTs) through the South Australian Integrated Land Information System (SAILIS). A copy of the current Crown Record (CR) is provided in Appendix C.

A review of the historical ownership of the MFS site identified that the land was dedicated for fire station purposes pursuant to the Crown Lands Act, 1929 by Gazette 27/11/1986. The current title was issued to the MFS on 19 April 2000.

6.2 Historical aerial photographs

Historical aerial photos are presented in the Lotsearch report in Appendix B. A review of the aerial images is provided in Table 4.

Table 4 Summary of historical aerial images

Year	Description
1936	The site and its surrounds appear vacant and likely utilised as agricultural land. The road immediately north of the site (present day Grand Junction Road) appears largely undeveloped and unsealed. An access track is present perpendicular to 'present day Grand Junction Road' and two structures, possibly a residential dwelling and associated farm shed, have been established to the north/north-east of the site.
1949	The site remains undeveloped, however works on the land are now present. Agricultural cropping appears to be occurring on the site and surrounding land area. Only the residential dwelling is now present directly to the north-east of the site, with the suspected farm shed now demolished. The road immediately north of the site (present day Grand Junction Road) appears to have been improved however still appears to be unsealed.
1959	The site and its surrounds remain largely the same as the 1949 historical aerial photograph. There is a more established access road to the north west of the site, perpendicular to the road to the north of the site (present day Grand Junction Road).
1968	The site remains vacant, and the larger area seems to have been divided into smaller portions of land. There are some established roads visible to the south and Grand Junction Road is more prominent and looks to have been sealed. There is an area to the south-west that looks to have more vegetation than any of the surrounding land, the layout of this area suggests it may be a drainage channel. The footings of the now Adelaide Woman's Prison are visible across Grand Junction Road to the north. The residential dwelling to the north-east of the site is still visible.
1979	The site remains vacant with some scattered vegetation present. The residential dwelling to the north-east of the site is no longer present. The roads to the south of the site have been sealed and a commercial facility has been developed to the south/south-east, including large buildings and car parking areas. The Adelaide Women's Prison facility to the north of the site has been completed and is comprised of two large buildings, lawned areas and some sealed roads and car parking areas.
1989	The Oakden Fire Station is now present on the site and appears to be in the same configuration as present day. The surface immediately surrounding the building looks to be sealed, with unsealed surface and vegetation closer to the site boundary. The Fire Water Pump Tank is visible to the south east of the building. Areas surrounding the site appear to have a number of dirt tracks, likely access tracks from the properties to the south-east to the site. The site to the south-east remains similar to the 1979 historical aerial photograph however there are some vehicle tracks visible and an unidentifiable 'stockpile' immediately south-east of the site. The Adelaide Women's Prison facility has expanded with additional buildings and facilities to the west.
1999	There are additional structures to the south-east of the site potentially associated with the facility to the south-east. The vegetation (trees) on-site and surrounding the site to the south and east are more established. There is now a structure to the north of the Adelaide women's Prison with associated access roads/driveways. The road to the north east of the site, perpendicular to Grand Junction Road, looks have returned to an access track.

Year	Description
2002	No significant changes since 1999.
2007	No significant changes since 2002.
2012	A small concrete pad with sheds has been constructed to the north-east of the site. There are no other significant changes since 2007.
2017	Some structures (likely sheds or workshops) to the south-east of the site are no longer present. The concrete pad and sheds to the north-east of the site are no longer present. The development to the north of the Adelaide Woman's Prison has expanded to include additional structures and small roads/driveways. The site remains unchanged from 2007.
2022	Buildings and facilities to the south-east of the site have been demolished. There are additional buildings constructed to the north and east of the Adelaide Women's Prison. The purpose of the buildings is unknown.

6.3 SA EPA public register

The SA EPA maintains a public register under the Environment Protection Act 1993 to make information available for the public to inspect. Information available on the register includes environmental authorisations and applications, environmental protection and clean up orders and the site contamination index which includes Section 83A Notifications, Audit Notification, Audit Termination and Audit Report since 1 July 2009.

Results from the SA EPA Public Register and Site Contamination index search provided by Lotsearch (Appendix B) are summarised in Table 5.

Table 5 Summary of SA EPA public register search

Record No.	Record Type	Entity	Site Address	Activity	Distance (m)	Direction
37102	LICENCE APPLICATION	South Australian Health and Medical Research Institute Limited	Allotment 10 (DP 28667) & Allotment 50 (DP 38622) Blacks Road, GILLES PLAINS, 5086, SA	Activities producing listed wastes	651m	East
37102	LICENCE	South Australian Health and Medical Research Institute Limited	Allotment 10 (DP 28667) & Allotment 50 (DP 38622) Blacks Road, GILLES PLAINS, 5086, SA	Activities producing listed wastes	651m	East
25322	LICENCE	City of Port Adelaide Enfield	Various Locations Within City of Port Adelaide Enfield, PORT ADELAIDE, SA	Earthworks drainage - for each day on which earthworks drainage takes place during the licence period	-	-
16178	SAHC	N/A	Former Hillcrest Hospital Fosters Road OAKDEN SA 5086	Fill or soil importation; Incineration	22m	South West
11983	Pre 1 July 2009 Audit Notification	N/A	Cnr Grand Junction & Walkleys Roads WALKLEY HEIGHTS SA 5098	Not recorded	252m	North East

Record No.	Record Type	Entity	Site Address	Activity	Distance (m)	Direction
11983 - 001	Pre 1 July 2009 Audit Report	N/A	Cnr Grand Junction & Walkleys Roads WALKLEY HEIGHTS SA 5098	Not recorded	252m	North East
11983 - 002	Pre 1 July 2009 Audit Report	N/A	Cnr Grand Junction & Walkleys Roads WALKLEY HEIGHTS SA 5098	Not recorded	252m	North East
60598	SAHC	N/A	Pt Sec 872 & 874 Grand Junction Road GILLES PLAINS SA 5086	Not recorded	473m	South East
60116	SAHC	N/A	Northfield Feasibility Study NORTHGATE SA 5085	Not recorded	587m	South
61707 - 01	S83A Notification	N/A	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	610m	West
61707 - 02	S83A Notification	N/A	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	610m	West
61707 - 03	S83A Notification	N/A	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	610m	West
61707 - 04	S83A Notification	N/A	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	610m	West
61707 - 05	S83A Notification	N/A	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	610m	West
10048	Pre 1 July 2009 Audit Notification	N/A	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Agricultural activities	626m	South West
10048 - 001	Pre 1 July 2009 Audit Report	N/A	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Agricultural activities	626m	South West
10048 - 002	Pre 1 July 2009 Audit Report	N/A	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded	626m	South West
10048 - 003	Pre 1 July 2009 Audit Report	N/A	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded	626m	South West

Record No.	Record Type	Entity	Site Address	Activity	Distance (m)	Direction
10048 - 004	Pre 1 July 2009 Audit Report	N/A	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded	626m	South West
12431	Pre 1 July 2009 Audit Notification	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	626m	West
12431 - 001	Pre 1 July 2009 Audit Report	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	626m	West
12431 - 002	Pre 1 July 2009 Audit Report	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	626m	West
10165	Pre 1 July 2009 Audit Notification	N/A	Trinity Way & Buckingham Street OAKDEN SA 5086	Not recorded	680m	South
10165 - 001	Pre 1 July 2009 Audit Report	N/A	Trinity Way & Buckingham Street OAKDEN SA 5086	Pest control works	680m	South
61588	Audit Notification	N/A	Lot 51 Blacks Road GILLES PLAINS SA 5086	Agricultural activities	743m	South East
61588 - 001	Audit Report	N/A	Lot 51 Blacks Road GILLES PLAINS SA 5086	Agricultural activities	743m	South East
12429	Pre 1 July 2009 Audit Notification	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	785m	West
12429 - 001	Pre 1 July 2009 Audit Report	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	785m	West
12429 - 002	Pre 1 July 2009 Audit Report	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	785m	West
12436	Pre 1 July 2009 Audit Notification	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	794m	West

Record No.	Record Type	Entity	Site Address	Activity	Distance (m)	Direction
12436 - 001	Pre 1 July 2009 Audit Report	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	794m	West
12436 - 002	Pre 1 July 2009 Audit Report	N/A	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	794m	West

6.4 SA EPA Section 7 search

GHD contacted the SA EPA in order to obtain an EPA Statement to Form 1 – Contracts for Sale of Land or Business for CT Volume 5808 Folio 746. Particulars of mortgages, charges and prescribed encumbrances affecting the land, and environmental protection are summarised below.

Regarding the site (CT 5759/678) the EPA had no records of issues associated with the particulars of mortgages, charges or prescribed encumbrances affecting the land or particulars relating to environment protection.

The EPA Statement to Form 1 – Contracts for Sale of Land or Business is presented in Appendix F.

6.5 Review of Council records

GHD emailed the City of Port Adelaide Enfield Council (PAEC) on 20 February 2023 requesting any documents or information pertaining to the site. The PAEC replied via email on 22 February 2023 and stated they had on record three approved applications on the land; a fire station, a canopy and installation of a transportable gym in association with an existing MFS station from 1987, 2000 and 2021 respectively.

PAEC advised that development files could be accessed for a fee, however given the fact that the applications were all associated with the Oakden Fire Station then further information on these applications is not considered likely to change the outcome of the preliminary site investigation.

7. Potentially contaminating activities

The following potentially contaminating activities (PCAs) with respect to PFAS have been identified as potentially occurring at or in the vicinity of the site.

Table 6 Potentially contaminating activities (PCAs)

Activity	On-site or Off-site	Rationale / Details	Likely Significance
Historical storage and use of PFAS-containing firefighting AFFF in training exercises	On-site and off-site	PFAS-containing firefighting foams were historically stored on-site. Staff interviews stated that during training exercises the AFFF was possibly dispersed up to 20 m beyond the fence line to the south and sometimes to the east (very rarely to the west). This PCA at the site may have impacted concrete slabs, bitumen, soil and groundwater.	High significance Contamination associated with this PCA may have a significant impact on concrete, bitumen and soil at the site which could potentially impact soil and groundwater on- and off-site. Additionally on-site and off-site vegetation may be impacted by this PCA.
Washdown of equipment, trucks and appliances and drainage to stormwater	On-site and off-site	After exercises and/or incidents involving AFFF use, appliances, equipment and tanks were washed down in the back yard and rear apron of the engine room. The wash down water was directed towards the garden or managed as stormwater and discharged off-site. Foam and wastewater from the training events was allowed to soak into the ground or discharged off-site into the public stormwater system.	High significance Contamination associated with this PCA may have a significant impact to on- and off-site soil, bitumen, concrete and surface water receptors and has contributed to off-site migration of PFAS compounds. Groundwater may also be impacted given the soaking of wastewater through the soil.
Residual PFAS in concrete or bitumen	On-site	If PFAS has impacted concrete or bitumen at the site, there is the potential for leaching of PFAS from concrete or bitumen surfaces within the fire training area to underlying and surrounding soil and groundwater	High significance Contamination associated with this PCA will likely continue to contribute to contaminant mass flux into the environment over time.
Storage of PFAS impacted water in the former dam	On-site	The tank appears to have been. The tank was operational up to 2021 and contained PFAS impacted water from training exercises. constructed with concrete and was installed to a depth of approximately 1.5 m bgl. Contaminated groundwater may have leaked from the tank into underlying soils and groundwater over time. It is not clear how the tank was decommissioned, and infrastructure may remain buried at the site.	High significance Contamination associated with this PCA may have a significant impact to on- and off-site soil, groundwater and off-site surface water receptors.

8. Preliminary conceptual site model (PCSM)

A preliminary conceptual site model (PCSM) is a qualitative analysis tool which identifies the contamination sources, transport mechanisms, exposure pathways and receptors considered in a site-specific risk assessment.

For an identifiable risk to exist, an exposure pathway must be present which requires each of the following to be identified:

- Presence of substances that may cause harm (SOURCE);
- Presence of a receptor which may be harmed (RECEPTOR); and
- Existence of a means of exposing a receptor to the source (EXPOSURE ROUTE / EXPOSURE PATHWAY).

A PCSM has been developed based on GHDs understanding of the site setting, including geology, hydrogeology and surrounding land use in order to identify potentially significant source-pathway-receptor (SPR) linkages in respect to the potential risks that may be encountered during excavation and construction activities.

8.1 Chemicals of potential concern

This PSI is limited to PFAS, which are the primary chemicals of potential concern (CoPC) for this site.

Scientists have identified thousands of individual PFAS compounds, but commercial laboratories only typically analyse a limited selection of these. The standard analytical suite focuses on the 28 individual PFAS that generally account for the majority of the PFAS mass in environmental samples and that are understood to be the most persistent, bioaccumulative and toxic.

The groups of PFAS included in the standard analytical suite include:

- Perfluoroalkyl sulfonates (PFSA), of which PFOS and PFHxS are the most well-studied.
- Perfluoroalkyl carboxylates (PFCA), of which PFOA is the most well-studied.
- Fluorotelomers, including 8:2 FTS and 6:2 FTS.
- Perfluoroalkyl sulfonamides.

8.2 Sources of PFAS contamination

Based on the site history investigation, the primary source of PFAS contamination at the site is the historical storage and use of PFAS containing firefighting foams for firefighting training activities.

The following known and potential sources of PFAS were identified on-site:

- Historical use of PFAS containing foams during training over the southern portion of the site, in the south eastern lawn area and north western unsealed area. In addition, anecdotal evidence suggests that PFAS containing foams were dispersed past the southern site boundary and to a lesser extent the eastern and western site boundaries.
- Historical, on-site storage of 20L drums of PFAS-containing firefighting foams in the storage shed in the southern part of the site (now the gym).
- Historical (up to 2021) storage of PFAS impacted water in the Fire Water Storage Tank located on the site's eastern side.
- Ongoing leaching of PFAS from impacted surfaces (concrete slabs and bitumen) associated with fire training and wash down activities.
- Ongoing leaching of PFAS from impacted soils beneath the open areas historically used for training activities or the post-incident washing down of appliances. It should be noted that all appliances on-site do not contain PFAS and are not considered an on-going risk to human health or the environment.

8.3 Exposure pathways

For an exposure to occur, a complete pathway must exist between a source of contamination and a receptor. Where the exposure pathway is incomplete, there is no exposure, and hence no risk. The following exposure pathways need to be considered:

- Consumption of contaminated groundwater.
- Consumption of contaminated edible vegetation.
- Direct dermal contact or incidental ingestion of contaminated soil, groundwater or surface runoff from impacted surfaces (concrete slabs or bitumen).
- Inhalation or ingestion of contaminated soil or dust.
- Surface runoff and groundwater transporting the contaminants off-site to the downstream and down-gradient neighbouring area.

8.4 Receptors

The potential receptors relevant to potential site activities are:

- Future on-site staff and visitors.
- Subsurface construction workers and maintenance workers (on-site and down-gradient off-site) who come into contact with contaminated soil and/or groundwater.
- On and off-site vegetation such as trees and bushes.
- People using groundwater for domestic and drinking purposes down-gradient of the site.
- People using groundwater for irrigation of edible vegetation with which they grow produce for consumption.
- People growing edible vegetation in open soil which may interact with off-site groundwater.
- People using off-site groundwater for recreational purposes such as filling of swimming pools..
- Off-site surface water bodies where stormwater systems and/or groundwater discharge.

8.5 Potentially complete exposure pathways

Potential SPR linkages based on the PCSM are summarised in Table 7.

Table 7 Preliminary conceptual site model

Potential source	Receptor	Pathway	Pathway present?
On-site PFAS impacted soils	Site users, visitors, maintenance, and construction workers	Direct dermal contact with contaminated soil	<p>Unlikely</p> <p>As the site is currently an operational fire station, the industrial / commercial land use HIL D assessment criteria is valid for the assessment of human health risk. PFAS concentrations detected to date in on-site soils were below the adopted Tier 1 HIL D for industrial / commercial land use. It is considered unlikely that site users, visitors, maintenance or construction workers would be exposed to PFAS quantities detrimental to their health. However, the extent of PFAS impacts in soils across the site has not been determined yet.</p>
		Incidental ingestion of contaminated soil	
		Inhalation of contaminated soil or dust from disturbed soils	
	Ecosystem at, and immediately surrounding, the site	Direct contact with contaminated soil	<p>Possible</p> <p>PFAS concentrations detected to date in soil on-site (GHD 2018) exceeded the adopted Tier 1 interim ecological criteria for indirect exposure. The unsealed areas of the site are found along the boundaries are accessible to flora and fauna.</p>
		Ingestion of contaminated soil	
		Bioaccumulation through indirect contact	
Groundwater beneath the site	Rainwater / surface runoff leaching impacted soil followed by migration through porous media into groundwater	<p>Possible</p> <p>The potential of PFAS leaching from contaminated soil into the groundwater has not been tested yet. Given the use of PFAS containing AFFF on site and the allowance of wastewater to soak into the ground it is possible that this has infiltrated into groundwater.</p>	
	Historical soaking of washdown wastewater into the ground		
	Storage of impacted water in subsurface tanks and leaking to groundwater		

Potential source	Receptor	Pathway	Pathway present?	
On-site PFAS impacted concrete and bitumen surfaces	Site users, visitors, maintenance, and construction workers	Direct dermal contact with contaminated concrete or bitumen	<p>Unlikely</p> <p>Concrete and bitumen surfaces on-site that have historically been exposed to PFAS containing AFFF during training activities have not been tested for PFAS yet. It is considered unlikely that site users, visitors, maintenance, or construction workers would be exposed to PFAS quantities detrimental to their health via this exposure pathway due to the nature of the media.</p>	
		Inhalation of contaminated dust		
	Groundwater beneath the site	Rainwater / surface runoff leaching impacted soil followed by migration through porous media into groundwater	<p>Possible</p> <p>Concrete and bitumen surfaces on-site that have historically been exposed to PFAS containing AFFF during training activities have not been tested for PFAS yet. The potential of PFAS leaching from contaminated concrete or bitumen on-site into the groundwater has not been tested yet.</p>	
		Historical soaking of washdown wastewater into the ground		
Off-site PFAS impacted soils	Off-site maintenance and subsurface construction workers	Direct dermal contact with contaminated soil	<p>Unlikely</p> <p>PFAS concentrations detected to date in on-site soils were below the adopted Tier 1 HIL D for industrial / commercial land use. It is considered unlikely that off-site visitors, maintenance, or construction workers would be exposed to PFAS quantities detrimental to their health. However, the extent of PFAS impacts in soils on-site and off-site has not been determined yet.</p>	
		Incidental ingestion of contaminated soil		
		Inhalation of contaminated soil or dust from disturbed soils		
	Off-site future residential occupants	Direct dermal contact with contaminated soil	<p>Possible</p> <p>On-site PFAS concentrations exceeded the Tier 1 HIL A for residential with garden accessible soil and one sample exceeded the HIL C for public open space. The proposed residential development for the area surrounding the site appears to have open space areas. However, the extent of PFAS impacts in soils on-site and off-site has not been determined yet.</p>	
		Incidental ingestion of contaminated soil		
		Uptake through edible vegetation or biota		
		Inhalation of contaminated soil or dust from disturbed soils		
	Off-site public open space	Off-site public open space	Direct dermal contact or ingestion of contaminated soils	<p>Possible</p> <p>PFAS concentrations detected to date in on-site soils indicated one sample exceeded the adopted Tier 1 HIL C for public open space land use. It is considered unlikely that off-site visitors, maintenance, or construction workers would be exposed to PFAS quantities detrimental to their health. However, the extent of PFAS impacts in soils on-site and off-site has not been determined yet.</p>

Potential source	Receptor	Pathway	Pathway present?
	Ecosystem surrounding the site	Direct contact with contaminated soil	<p>Possible</p> <p>PFAS concentrations detected to date in soil on-site (GHD 2018) exceeded the adopted Tier 1 interim ecological criteria for indirect exposure, with this in mind the use of PFAS substances extended beyond the site boundaries</p>
		Ingestion of contaminated soil	
	Groundwater beneath impacted soil	Bioaccumulation through indirect contact	
	Groundwater beneath impacted soil	Rainwater / surface runoff leaching impacted soil followed by migration through porous media into groundwater	<p>Possible</p> <p>The potential of PFAS leaching from contaminated soil into the groundwater has not been tested yet.</p>
PFAS-impacted groundwater	People using groundwater for: domestic and drinking purposes	Consumption of contaminated groundwater	<p>Unlikely</p> <p>The presence of PFAS contamination in groundwater on-site or down hydraulic gradient of the site has not been assessed.</p> <p>Within a 2 km radius of the site one registered well had TDS values in groundwater below 1,200 mg/L, which is considered suitable for domestic and primary irrigation purposes (Gov SA 2015). While no wells were listed as having a had domestic purposes, 32 had no purpose listed and therefore, potable use of groundwater cannot be ruled out at this stage.</p>
	People using groundwater for irrigation of vegetable gardens and / or fruit trees with which they grow produce for consumption	Consumption of fruit and vegetables irrigated by contaminated groundwater	<p>Possible</p> <p>Two registered wells within a 2 km radius of the site had irrigation purposes. The extent of PFAS in groundwater down hydraulic gradient of the site has not been assessed and residential properties with gardens where fruit and / or vegetables could be grown are present within 2 km of the site.</p>
	People growing edible vegetation and / or in open soil which may interact with groundwater	Consumption of PFAS impacted edible vegetation	<p>On-site: No</p> <p>MFS staff have removed all edible vegetation from the MFS sites.</p>
			<p>Off-site: possible</p> <p>Currently the groundwater flow direction is unknown. The presence of PFAS contamination in the inferred groundwater hydraulic downgradient of the site has not been assessed and residential properties with gardens where fruit and / or vegetables could be grown are present within 2 km of the site.</p>
People using groundwater for recreational purposes such as filling of swimming pools	Incidental ingestion of contaminated groundwater	<p>Possible</p> <p>The extent of PFAS in groundwater down hydraulic gradient of the site has not been assessed and one well within a 2 km radius of the site were identified as having an environmental / recreational purpose.</p>	

Potential source	Receptor	Pathway	Pathway present?
	Down gradient off-site maintenance and sub-surface construction workers that contact PFAS contaminated groundwater	Direct dermal contact or incidental ingestion of contaminated groundwater	Unlikely Whilst it is possible that off-site maintenance or sub-surface construction workers could incidentally ingest contaminated groundwater, it is unlikely that they will ingest quantities detrimental to their health.
	Freshwater ecosystem of Dry Creek	Direct contact and/or ingestion with contaminated groundwater.	Unlikely Dry Creek lies within the 2km radius of the site. Groundwater is reported to be at a minimum, approximately 5 m bgl and the depth of Dry Creek and groundwater elevations have not been assessed. The extent of PFAS in groundwater down hydraulic gradient of the site has not been assessed, nor has the interaction of Dry Creek with the groundwater beneath it. This cannot be ruled out at this stage.
		Bioaccumulation through direct contact.	
	Recreational users of Dry Creek River Trail	Direct contact and/or ingestion with contaminated groundwater.	

8.6 PCSM data gaps

Based upon the results of this PSI and the PCSM the following data gaps have been identified:

- The lateral and vertical extent of PFAS contamination in groundwater has not been determined.
- The lateral and vertical extent of PFAS contamination in soil across the site has not been delineated.
- The uptake of PFAS by on and off-site vegetation has not been determined.
- The extent of PFAS contamination in on-site concrete and bitumen surfaces and the associated PFAS flux from these materials has not been assessed.
- The extent of groundwater use for domestic (i.e. potable), irrigation or recreational purposes downgradient of the site remains remain unknown.
- The potential for PFAS to leach from contaminated on-site soil into the groundwater has not been tested yet.

8.7 Areas for investigation

Given the PCSM data gaps outlined above, the following areas for investigation are recommended:

- Targeted on-site soil and concrete sampling of the southern carpark and former training area
- Targeted on-site soil and concrete sampling of the north-western portion where training occurred.
- Targeted on-site concrete and soil sampling of the wash down area to the south of the garage
- Targeted soil sampling of the former tanks and former PFAS storage area to the south
- Soil sampling of immediate off-site areas where overspray was noted to have occurred, particularly to the south and east of the site.
- Targeted sampling of stormwater and sediment in stormwater drains, where accessible, and at stormwater discharge points.
- Groundwater investigations, through the installation of three monitoring wells targeting potential source areas.

9. Conclusions

GHD was engaged by the MFS to undertake a desktop preliminary site investigation for the Oakden fire station located at 700 Grand Junction Road, Oakden, SA.

The objective of the PSI was to assess the current and historical activities at the site and surrounding properties that may have involved the use of PFAS containing foam, thus contributing to PFAS contamination that may pose a risk to human health or the environment.

The results of this desktop investigation provided information for the development of a PCSM and to inform the preparation of an SAQP for further assessments.

Determination of site contamination and risk to human health and the environment

- Documented information confirmed the historical use and storage of PFAS containing fire fighting foam on-site after the official opening of the site in 1991.
- Anecdotal information provided by the Oakden Fire Station Officers confirmed that the PFAS containing fire fighting foam was dispersed beyond the site boundaries; often to the south and less regularly to the east and the west.
- Minimal soil sampling has been undertaken on-site with one sample exceeding the HIL C public open space guideline. All soil samples exceeded the PFAS NEMP Interim Ecological Indirect Exposure guideline.
- The two surface water samples taken from the former dam exceeded the Health Drinking Water guideline. It should be noted that the dam has been backfilled.
- While soil on-site has confirmed the presence of PFAS, the extent of PFAS in soil and groundwater on-site and off-site has not yet been determined.

The PCSM identified the following potentially complete PFAS exposure pathways:

- Exposure of site users, visitors, maintenance and construction workers to PFAS via direct dermal contact with contaminated soil, incidental ingestion of contaminated soil or inhalation of contaminated soil / dust from disturbed soils.
- Exposure of site users, visitors, maintenance and construction workers to PFAS via direct dermal contact with PFAS impacted concrete / bitumen surfaces or inhalation of contaminated dust from such surfaces.
- Exposure of future residential occupants in the proposed residential development on the land surrounding the site.
- Leaching of PFAS from contaminated soils or concrete / bitumen surfaces followed by migration through porous media into groundwater.
- Consumption of contaminated groundwater extracted off-site for domestic / drinking purposes.
- Consumption of edible vegetation grown off-site where plants were irrigated with contaminated groundwater or where plant roots accessed shallow contaminated groundwater.
- Incidental ingestion of contaminated groundwater extracted off-site for recreational purposes such as filling of swimming pools.

Recommendations

GHD recommends that a SAQP be prepared to undertake further intrusive investigations to determine the nature and extent of identified PFAS impacts in on-site and off-site areas associated with historical activities at the site and to identify and assess any potential risks to human health and the environment in the context of relevant current and potential future land uses.

10. References

- DEW 2022, WaterConnect online data base for groundwater and surface water, Department for Environment and Water, South Australia, accessed February 2023 via www.waterconnect.sa.gov.au.
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Figures

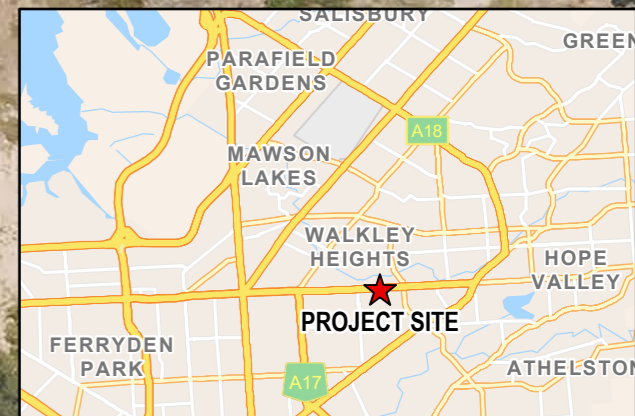
- Figure 1* *Site Location Plan*
- Figure 2* *Site Layout Plan*
- Figure 3* *Historical Sampling Locations*
- Figure 4* *Surrounding land use and zoning*



Legend

- Site Boundary
- Cadastre
- Roads

GRAND JUNCTION

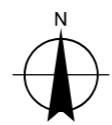


Data Disclaimer

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 54



South Australian Metropolitan Fire Service
PSI/SAQP for MFS High Risk Sites










Project No. 12602101
Revision No. A
Date 28/03/2023

Oakden Site Location Plan

FIGURE 1

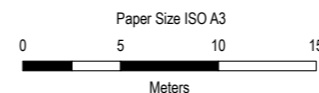


Legend

-  Stormwater Pits
-  Roads
-  Historical Storage of PFAS
-  Former Fire Water Pump Tank / Dam
-  Historical Training Areas
-  Decommissioned Fuel Pump & 15,000 L Diesel UST
-  Wash down Bay
-  Site Boundary
-  Cadastre

Data Disclaimer

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Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 54



South Australian Metropolitan Fire Service
 PSI/SAQP for MFS High Risk Sites






Project No. 12602101
 Revision No. B
 Date 26/04/2023

Oakden Site Layout Plan

FIGURE 2

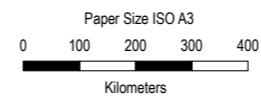


Legend

-  Soil Samples
-  Surface Water Samples
-  Site Boundary
-  Cadastre
-  Roads

Data Disclaimer

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Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 54



South Australian Metropolitan Fire Service
 PSI/SAQP for MFS High Risk Sites

Project No. 12602101
 Revision No. A
 Date 28/03/2023

**Oakden Historical
 Sampling Locations (2018)**

FIGURE 3



Legend

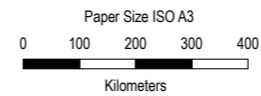
- Site Boundary
- Cadastre
- Roads

Land Use

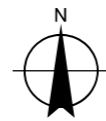
- Public Institution
- Residential
- Utility Industry
- Vacant
- Vacant Residential

Data Disclaimer

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Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 54



**South Australian Metropolitan Fire Service
 PSI/SAQP for MFS High Risk Sites**

Project No. **12602101**
 Revision No. **A**
 Date **28/03/2023**

Oakden Surrounding Landuse Plan

FIGURE 4

Appendices

Appendix A

SA EPA correspondence

OFFICIAL



Environment Protection Authority

GPO Box 2607 Adelaide SA 5001

T (08) 8204 2004

Country areas 1800 623 445

EPA GENI 62917

Krystle Mitchell
Senior Scientific and Environmental Officer
South Australian Metropolitan Fire Service
By Email: Krystle.Mitchell@eso.sa.gov.au

Dear Ms Mitchell,

RE: REVIEW OF SITE CONTAMINATION REPORT – ACTION REQUIRED

Site: Various Metropolitan Fire Service (MFS) Fire Stations, South Australia

Thank you for providing the Environment Protection Authority (EPA) with a copy of the following report:

- *MFS 17 Fire Stations PFAS Risk Profiling*, prepared by GHD and dated 26 October 2022.

The above report documents a desktop risk profiling and prioritisation assessment completed for 17 MFS stations previously identified as containing PFAS contamination, based on limited site sampling completed in 2019 (GHD 2019)¹.

The EPA requests that you submit a plan of proposed works and associated timelines to address the highest risk sites by **30 June 2023**.

If you agree to undertake the above listed works it is requested that you submit written acknowledgement to the EPA stating as such. If you wish to discuss potential alterations to the recommended works or delivery date please contact the EPA as soon as possible.

It is not clear in the above report whether stations where no soil sampling was completed, or where the limited sampling showed no site contamination, were considered as part of the risk screening assessment. The EPA notes that the sampling documented in GHD (2019) was highly limited and may not capture all potential PFAS source areas at a station. The EPA recommends that these stations be risk profiled if not undertaken previously.

Please provide a copy of this letter to your engaged consultant to assist them in developing a scope of works for the relevant sites. Fact sheets relating to your obligations under the *Environment Protection Act 1993* and how to engage a site contamination consultant be found at www.epa.sa.gov.au. If you would like further assistance on this matter please contact Brooke Ryan on (08) 8204 8525 or at brooke.ryan2@sa.gov.au.

Yours sincerely

A handwritten signature in cursive script that reads 'H Custance'.

Hannah Custance

PRINCIPAL ADVISER, SITE CONTAMINATION

ENVIRONMENT PROTECTION AUTHORITY

Date: 1 February 2023

Cc: Ben Petticrew, Technical/Project Director – Contamination Assessment and Remediation, GHD (ben.petticrew@ghd.com)

¹ *MFS State Wide Appliance and Station Sampling*, prepared by GHD and dated May 2019.

Appendix B

Lotsearch report LS040269 EP



LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 10 Feb 2023 11:54:37

Reference: LS040269 EP

Address: 700 Grand Junction Road, Oakden, SA 5086

Disclaimer:

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features. You should obtain independent advice before you make any decision based on the information within the report. The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	PSMA Australia Limited	01/11/2021	01/11/2021	Quarterly	-	-	-	-
EPA Site Contamination Index	EPA South Australia	06/01/2023	06/01/2023	Monthly	1000m	0	1	29
EPA Environmental Protection Orders	EPA South Australia	25/01/2023	25/01/2023	Monthly	1000m	0	0	0
EPA Environmental Authorisations	EPA South Australia	25/01/2023	25/01/2023	Monthly	1000m	0	0	3
EPA Assessment Areas	EPA South Australia	25/01/2023	25/01/2023	Quarterly	1000m	0	0	0
EPA Groundwater Prohibition Areas	EPA South Australia	23/01/2023	20/08/2022	Monthly	1000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	06/01/2023	06/01/2023	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	06/01/2023	06/01/2023	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	13/12/2022	13/12/2022	Monthly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	02/09/2022	02/09/2022	Quarterly	2000m	0	0	0
National Waste Management Facilities Database	Geoscience Australia	26/05/2022	07/03/2017	Annually	1000m	0	0	0
EPA Collection Depots	EPA South Australia	20/12/2022	20/08/2022	Quarterly	1000m	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	23/08/2022	15/03/2012	Annually	1000m	0	0	0
Historical Business Directories (Premise & Intersection Matches)	Hardie Grant, Sands & McDougall			Not required	150m	0	0	0
Historical Business Directories (Road & Area Matches)	Hardie Grant, Sands & McDougall			Not required	150m	-	12	12
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant, Sands & McDougall			Not required	500m	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant, Sands & McDougall			Not required	500m	-	0	0
Mines and Mineral Deposits	Department for Energy and Mining	18/10/2022	18/10/2022	Quarterly	1000m	0	0	2
Groundwater Aquifers	Department for Environment and Water	29/03/2021	01/01/2008	Annually	1000m	1	2	2
Drillholes	Department for Environment and Water	19/10/2022	07/10/2022	Quarterly	2000m	0	0	154
Surface Geology 1:100,000	Department for Energy and Mining	12/07/2018	01/07/2018	As required	1000m	1	1	5
Geological Linear Structures 1:100,000	Department for Energy and Mining	12/07/2018	01/07/2018	As required	1000m	0	0	0
Atlas of Australian Soils	ABARES	19/05/2017	17/02/2011	As required	1000m	1	1	1
Soil Types	Department for Environment and Water	12/07/2018	01/07/2009	As required	1000m	1	1	1
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	1	1	1
Acid Sulfate Soil Potential	Department for Environment and Water	06/04/2022	18/02/2020	Annually	1000m	1	1	1
Soil Salinity - Watertable Induced	Department for Environment and Water	23/06/2022	09/06/2016	Annually	1000m	1	1	1
Soil Salinity - Non-watertable	Department for Environment and Water	19/04/2022	18/02/2020	Annually	1000m	1	1	1
Soil Salinity - Non-watertable (magnesia patches)	Department for Environment and Water	19/04/2022	18/02/2020	Annually	1000m	1	1	1

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Planning and Design Code - Zones	Attorney-General's Department	13/12/2022	23/06/2022	Monthly	1000m	1	2	5
Planning and Design Code - Subzones	Attorney-General's Department	13/12/2022	20/01/2022	Monthly	1000m	0	0	0
Land Use Generalised 2020	Department of Planning, Transport and Infrastructure	18/10/2022	07/03/2022	Annually	1000m	1	2	11
Commonwealth Heritage List	Australian Government Department of Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
National Heritage List	Australian Government Department of Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000m	0	0	0
State Heritage Areas	Department for Environment and Water	06/04/2022	18/02/2020	Annually	1000m	0	0	0
SA Heritage Places	Department for Environment and Water	19/10/2022	23/09/2021	Quarterly	1000m	0	1	7
Aboriginal Land	Department for Energy and Mining	06/04/2022	08/04/2018	Annually	1000m	0	0	0
Planning and Design Code - Overlays - Bushfire	Attorney-General's Department	13/12/2022	13/12/2022	Monthly	1000m	0	0	0
Bushfires and Prescribed Burns History	Department for Environment and Water	06/04/2022	24/02/2020	Annually	1000m	0	0	0
Planning and Design Code - Overlays - Flooding	Attorney-General's Department	13/12/2022	13/12/2022	Monthly	1000m	0	0	2
Groundwater Dependent Ecosystems Atlas	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	0	0	0
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	0	0	0
Ramsar Wetland Areas	Department for Environment and Water	28/03/2022	18/02/2020	Annually	1000m	0	0	0

Site Diagram

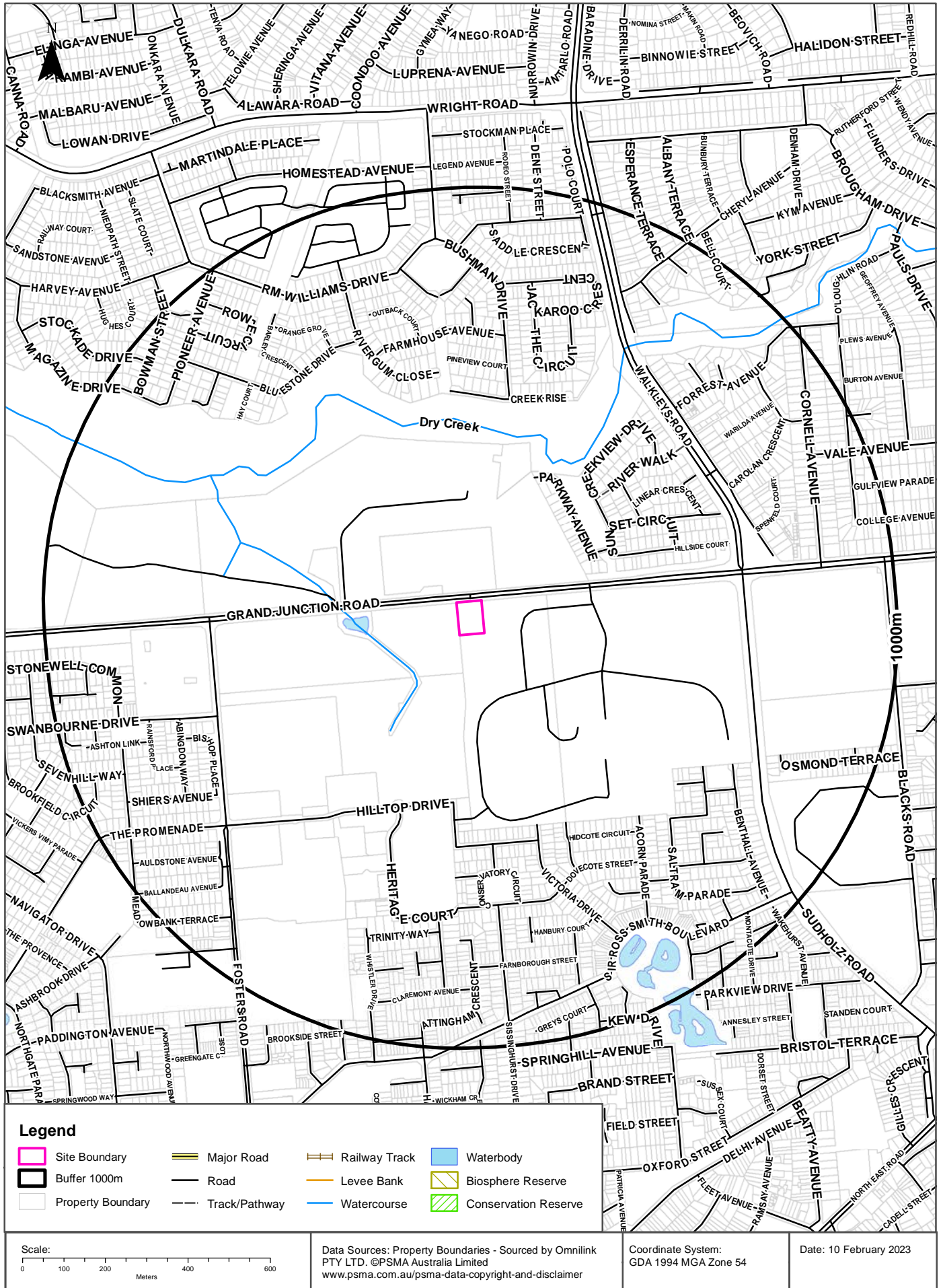
700 Grand Junction Road, Oakden, SA 5086



Legend Site Boundary Internal Parcel Boundaries	Total Area: 4802m ² Total Perimeter: 280m	Scale:
	Disclaimers: Measurements are approximate only and may have been simplified or smaller lengths removed for readability. Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.	Data Source Aerial Imagery: © Aerometrex Pty Ltd
		Date: 10 February 2023

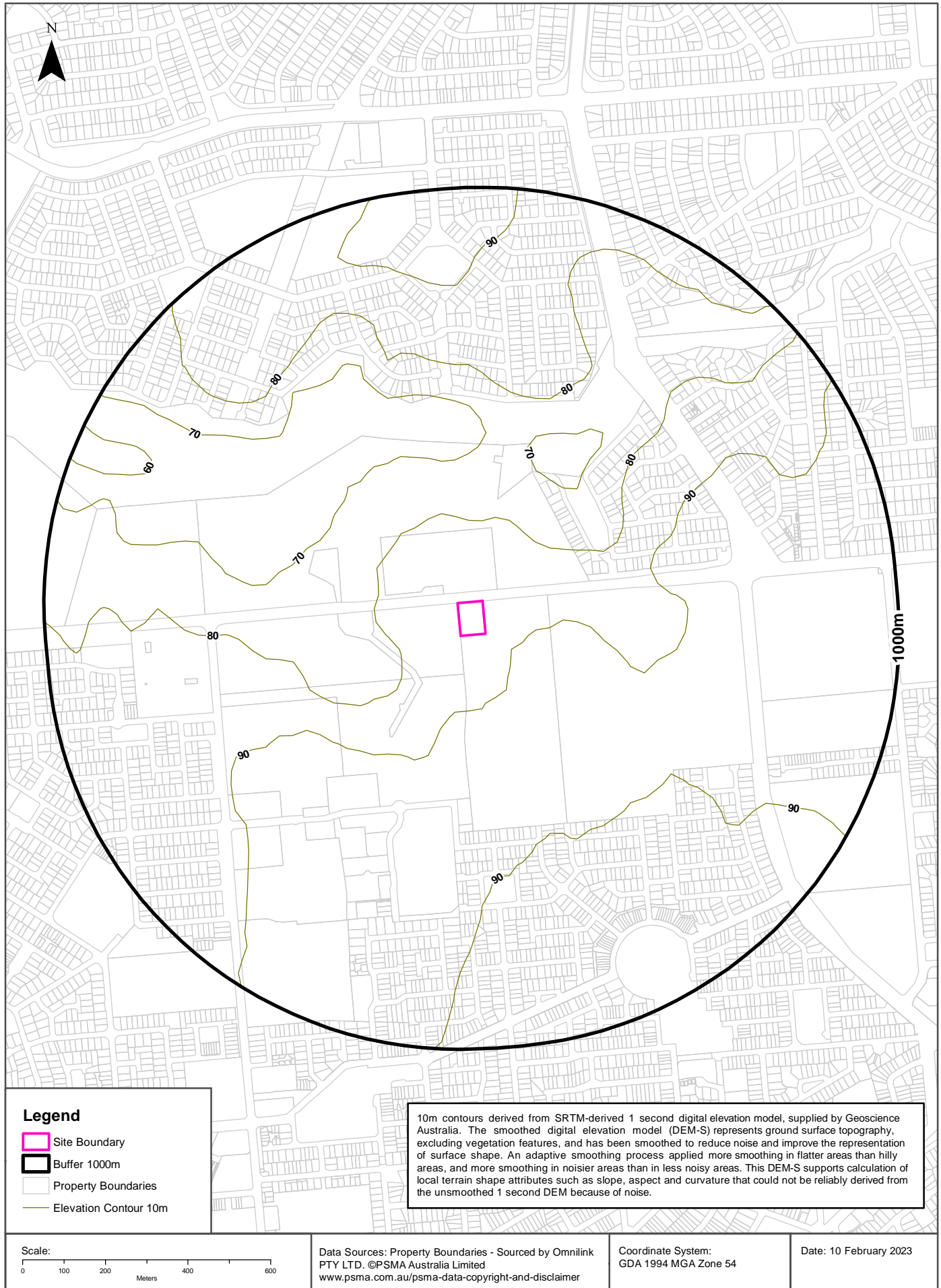
Topographic Features

700 Grand Junction Road, Oakden, SA 5086



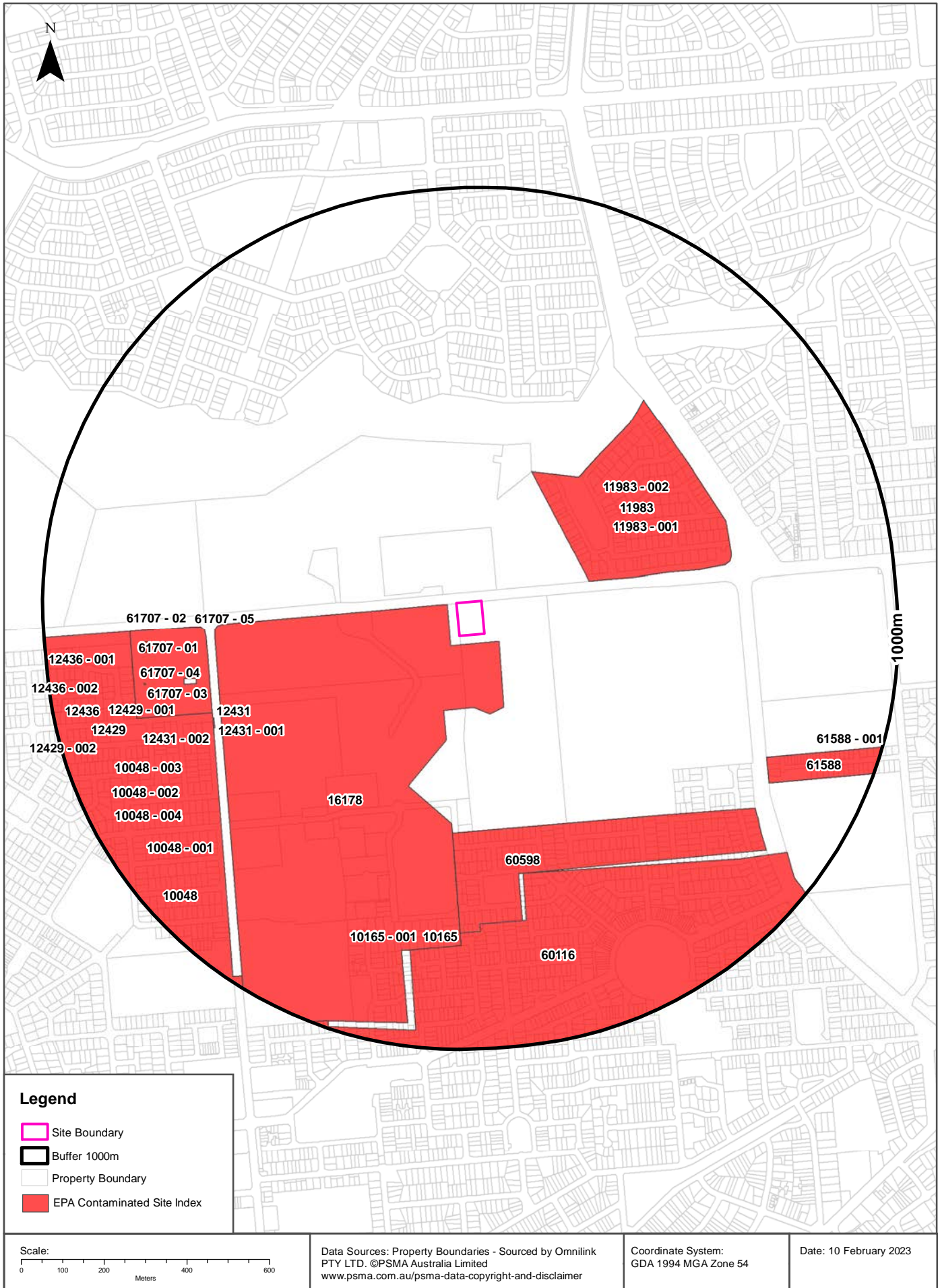
Elevation Contours

700 Grand Junction Road, Oakden, SA 5086



EPA Site Contamination Index

700 Grand Junction Road, Oakden, SA 5086



EPA Contaminated Land

700 Grand Junction Road, Oakden, SA 5086

EPA Site Contamination Index

Sites on the EPA Contamination Index within the dataset buffer:

Notification No	Type	Address	Activity	Status	LocConf	Dist	Dir
16178	SAHC	Former Hillcrest Hospital Fosters Road OAKDEN SA 5086	Fill or soil importation; Incineration	Current EPA List	Premise Match	22m	South West
11983	Pre 1 July 2009 Audit Notification	Cnr Grand Junction & Walkleys Roads WALKLEY HEIGHTS SA 5098	Not recorded	Current EPA List	Premise Match	252m	North East
11983 - 001	Pre 1 July 2009 Audit Report	Cnr Grand Junction & Walkleys Roads WALKLEY HEIGHTS SA 5098	Not recorded	Current EPA List	Premise Match	252m	North East
11983 - 002	Pre 1 July 2009 Audit Report	Cnr Grand Junction & Walkleys Roads WALKLEY HEIGHTS SA 5098	Not recorded	Current EPA List	Premise Match	252m	North East
60598	SAHC	Pt Sec 872 & 874 Grand Junction Road GILLES PLAINS SA 5086	Not recorded	Current EPA List	Premise Match	473m	South East
60116	SAHC	Northfield Feasibility Study NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	587m	South
61707 - 01	S83A Notification	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	Current EPA List	Premise Match	610m	West
61707 - 02	S83A Notification	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	Current EPA List	Premise Match	610m	West
61707 - 03	S83A Notification	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	Current EPA List	Premise Match	610m	West
61707 - 04	S83A Notification	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	Current EPA List	Premise Match	610m	West
61707 - 05	S83A Notification	Lot 501 Grand Junction Road NORTHGATE SA 5085	Electrical substations	Current EPA List	Premise Match	610m	West
10048	Pre 1 July 2009 Audit Notification	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Agricultural activities	Current EPA List	Premise Match	626m	South West
10048 - 001	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Agricultural activities	Current EPA List	Premise Match	626m	South West
10048 - 002	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded	Current EPA List	Premise Match	626m	South West
10048 - 003	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded	Current EPA List	Premise Match	626m	South West
10048 - 004	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded	Current EPA List	Premise Match	626m	South West
12431	Pre 1 July 2009 Audit Notification	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	626m	West
12431 - 001	Pre 1 July 2009 Audit Report	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	626m	West
12431 - 002	Pre 1 July 2009 Audit Report	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	626m	West
10165	Pre 1 July 2009 Audit Notification	Trinity Way & Buckingham Street OAKDEN SA 5086	Not recorded	Current EPA List	Premise Match	680m	South
10165 - 001	Pre 1 July 2009 Audit Report	Trinity Way & Buckingham Street OAKDEN SA 5086	Pest control works	Current EPA List	Premise Match	680m	South
61588	Audit Notification	Lot 51 Blacks Road GILLES PLAINS SA 5086	Agricultural activities	Current EPA List	Premise Match	743m	South East
61588 - 001	Audit Report	Lot 51 Blacks Road GILLES PLAINS SA 5086	Agricultural activities	Current EPA List	Premise Match	743m	South East
12429	Pre 1 July 2009 Audit Notification	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	785m	West
12429 - 001	Pre 1 July 2009 Audit Report	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	785m	West
12429 - 002	Pre 1 July 2009 Audit Report	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	785m	West
12436	Pre 1 July 2009 Audit Notification	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	794m	West
12436 - 001	Pre 1 July 2009 Audit Report	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	794m	West

Notification No	Type	Address	Activity	Status	LocConf	Dist	Dir
12436 - 002	Pre 1 July 2009 Audit Report	Portions of Allotment 51 Grand Junction Road NORTHGATE SA 5085	Not recorded	Current EPA List	Premise Match	794m	West

Site Contamination Index Data Source: EPA South Australia

EPA Public Register

700 Grand Junction Road, Oakden, SA 5086

EPA Environment Protection and Clean Up Orders

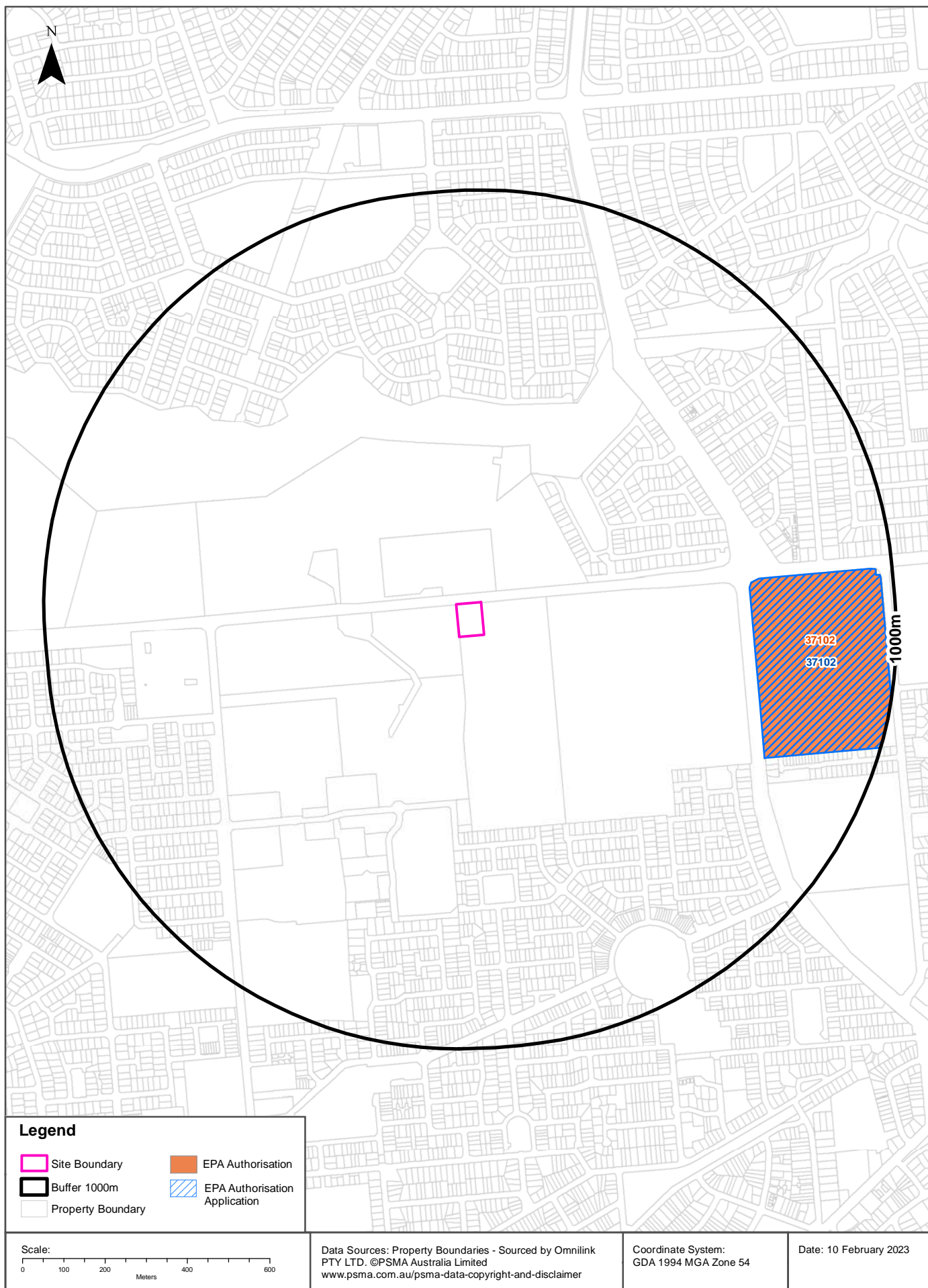
EPA Environment Protection and Clean Up Orders, within the dataset buffer:

Record No.	Record Type	Record Status	Entity	Site Address	Activity	EPA Register Status	LocConf	Dist	Dir
N/A	No records in buffer								

Authorisations Data Source: EPA South Australia

EPA Authorisations and Applications

700 Grand Junction Road, Oakden, SA 5086



EPA Public Register

700 Grand Junction Road, Oakden, SA 5086

EPA Authorisations and Applications

EPA Authorisations and Authorisation Applications within the dataset buffer:

Record No.	Record Type	Record Status	Entity	Site Address	Activity	EPA Register Status	LocConf	Dist	Dir
37102	LICENCE APPLICATION	Proceed To Authorisation	South Australian Health and Medical Research Institute Limited	Allotment 10 (DP 28667 & Allotment 50 (DP 38622) Blacks Road, Gilles Plains SA 5086	Activities producing listed wastes	Current EPA Register	Premise Match	651m	East
37102	LICENCE	Issued	SOUTH AUSTRALIAN HEALTH AND MEDICAL RESEARCH INSTITUTE LIMITED	Allotment 10 (DP 28667) & Allotment 50 (DP 38622) Blacks Road, GILLES PLAINS, 5086, SA	Activities producing listed wastes	Current EPA Register	Premise Match	651m	East
25322	LICENCE	Issued	CITY OF PORT ADELAIDE ENFIELD	Various Locations Within City of Port Adelaide Enfield, PORT ADELAIDE, SA	Earthworks drainage - for each day on which earthworks drainage takes place during the licence period	Current EPA Register	Suburb Match	-	-

Authorisations Data Source: EPA South Australia

EPA Assessment and Groundwater Prohibition Areas

700 Grand Junction Road, Oakden, SA 5086

EPA Assessment Areas

EPA Assessment Areas within the dataset buffer:

Map Id	Supplied Ref	Area Name	Map Link	Status	Location Confidence	Distance	Direction
N/A	No records in buffer						

Assessment Areas Data Source: EPA South Australia

EPA Assessment and Groundwater Prohibition Areas

700 Grand Junction Road, Oakden, SA 5086

EPA Groundwater Prohibition Areas

EPA Groundwater Prohibition Areas within the dataset buffer:

Map Id	Site Name	Location Confidence	Distance	Direction
N/A	No records in buffer			

Groundwater ProhibitionAreas Data Source: EPA South Australia

PFAS Investigation & Management Programs

700 Grand Junction Road, Oakden, SA 5086

Defence PFAS Investigation & Management Program Investigation Sites

Sites being investigated by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

Defence PFAS Investigation & Management Program Data Custodian: Department of Defence, Australian Government

Defence PFAS Investigation & Management Program Management Sites

Sites being managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

Defence PFAS Investigation & Management Program Data Custodian: Department of Defence, Australian Government

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Location Confidence	Distance	Direction
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

700 Grand Junction Road, Oakden, SA 5086

Defence 3 Year Regional Contamination Investigation Program

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

Waste Management and Liquid Fuel Facilities

700 Grand Junction Road, Oakden, SA 5086

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Class	Revised Date	Location Confidence	Distance	Direction
N/A	No records in buffer								

Waste Management Facilities Data Source: Australian Government Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

EPA Approved Container Collection Depots

EPA approved container collection depots within the dataset buffer:

MapId	Name	Address	Suburb	Loc Conf	Distance	Direction
N/A	No records in buffer					

Collection Depot Data Source: EPA South Australia

National Liquid Fuel Facilities

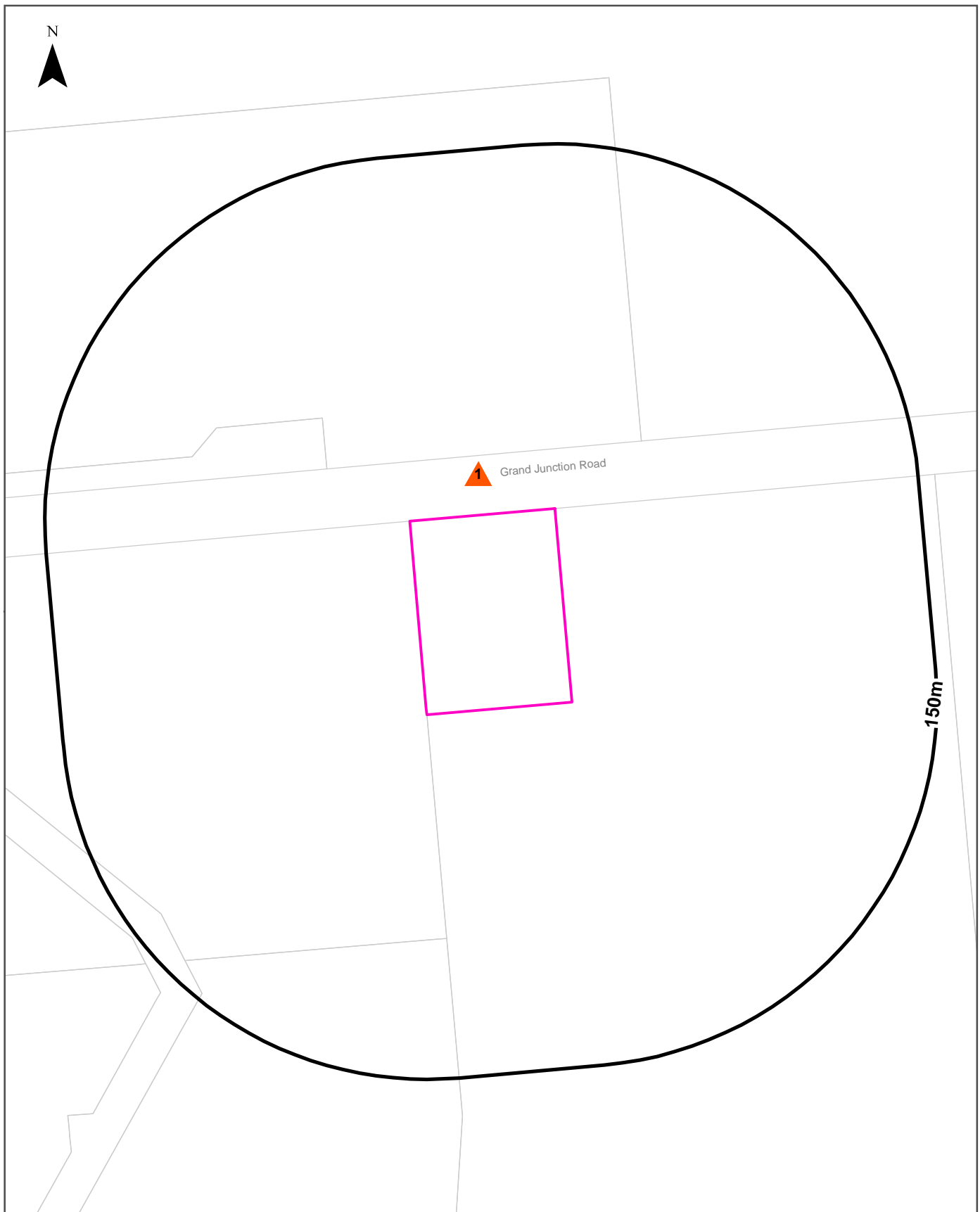
National Liquid Fuel Facilities within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Dir
N/A	No records in buffer										

National Liquid Fuel Facilities Data Source: Geoscience Australia
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Historical Business Directories

700 Grand Junction Road, Oakden, SA 5086



Legend <ul style="list-style-type: none">Site BoundaryBuffer 150mProperty BoundaryBusiness directory records mapped to a specific premiseBusiness directory records mapped to a road intersectionBusiness directory records mapped to a road corridorBusiness directory records mapped to a general area	Scale: 0 30 60 90 120 Metres	Coordinate System: GDA 1994 MGA Zone 54
	Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018 Sands & McDougall's Directory - Digitised by State Library Victoria Property Boundaries - Sourced by Omnilink PTY LTD. ©PSMA Australia Limited 2023 www.psm.com.au/psma-data-copyright-and-disclaimer	Date: 10 February 2023

Historical Business Directories

700 Grand Junction Road, Oakden, SA 5086

Business Directory Records 1910-1991 Premise or Road Intersection Matches

Universal Business Directory and Sands & McDougall Directory records, from years 1991, 1984, 1973, 1965, 1955, 1950, 1940, 1930, 1920 & 1910, mapped to a premise or road intersection within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
N/A	No records in buffer						

Business Directory Content reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018 and Sands & McDougall's Directory of South Australia

Business Directory Records 1910-1991 Road or Area Matches

Universal Business Directory and Sands & McDougall Directory records, from years 1991, 1984, 1973, 1965, 1955, 1950, 1940, 1930, 1920 & 1910, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	Clubs &/or Sporting Bodies	Greenacres Football Club Inc, Grand Junction Rd, Northfield 5085	5750	1984	Road Match	15m
	Clubs &/or Sporting Bodies	Northern Districts - Greenacres Sports & Social Club Inc, Grand Junction Rd, Northfield 5085	5814	1984	Road Match	15m
	ASSOCIATIONS	Artificial Breeding Board The Grand Junction rd Northfield	17347	1973	Road Match	15m
	Delicatessens & Ham & Beef Shops	Little A & B & Andrew H 487 Junction rd Northfield	5103	1973	Road Match	15m
	STEEL FABRICATORS	N T I Ltd Junction rd Northfield	39719	1973	Road Match	15m
	WOOD WORKERS	Northfield Woodwork Centre Junction rd Northfield	17398	1973	Road Match	15m
	BUILDERS & GENERAL CONTRACTORS	Kennett Bros Ltd 469 Junction rd Northfield	49371	1965	Road Match	15m
	BUTCHERS	Little A & B Junction rd Northfield	840	1965	Road Match	15m
	STEEL TUBE FABRICATION	N T I Ltd Junction rd Northfield	55259	1965	Road Match	15m
	WOOD WORKERS	Northfield Woodwork Centre Junction rd Northfield	20990	1965	Road Match	15m
	GROCERS & GENERAL STOREKEEPERS	Jones R L & R E Junction rd Northfield	9045	1955	Road Match	15m
	FEDERAL INSTITUTE OF ACCOUNTANTS	Harper, C. G., Junction Rd., Northfield	17583	1930	Road Match	15m

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Historical Business Directories

700 Grand Junction Road, Oakden, SA 5086

Dry Cleaners, Motor Garages & Service Stations 1930-1991 Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories and Sands & McDougall's Directories, from years 1991, 1984, 1973, 1965, 1955, 1950, 1940 & 1930, mapped to a premise or road intersection, within the dataset buffer.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
N/A	No records in buffer						

Business Directory Content reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018 and Sands & McDougall's Directory of South Australia

Dry Cleaners, Motor Garages & Service Stations 1930-1991 Road or Area Matches

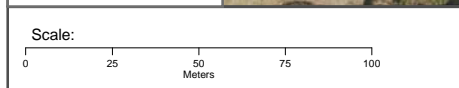
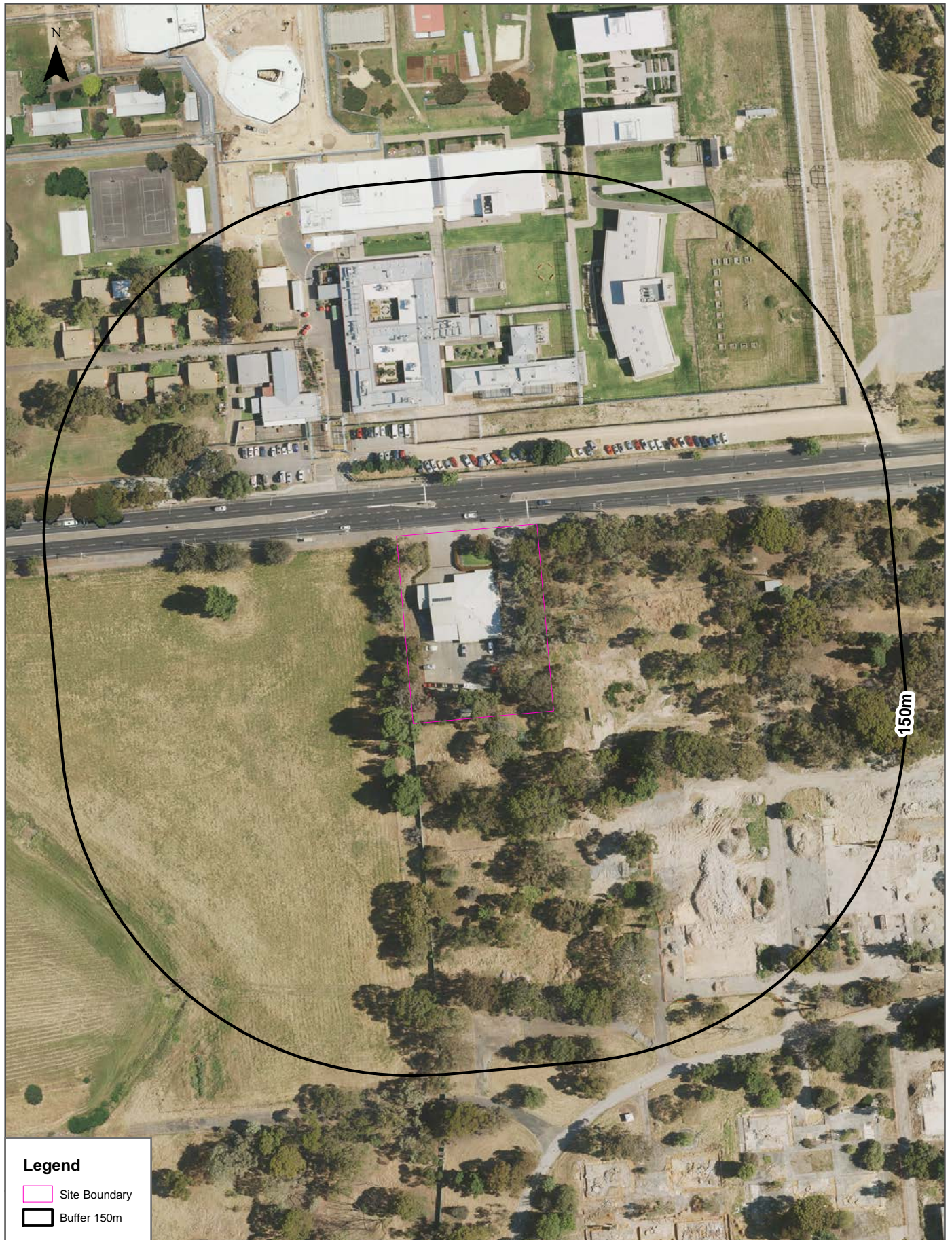
Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories and Sands & McDougall's Directories, from years 1991, 1984, 1973, 1965, 1955, 1950, 1940 & 1930, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer					

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Aerial Imagery 2022

700 Grand Junction Road, Oakden, SA 5086



Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 54

Date: 10 February 2023


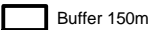
Aerial Imagery 2017

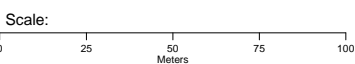
700 Grand Junction Road, Oakden, SA 5086



150m

Legend

-  Site Boundary
-  Buffer 150m



Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 54

Date: 10 February 2023



Aerial Imagery 2012

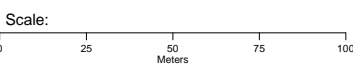
700 Grand Junction Road, Oakden, SA 5086



150m

Legend

-  Site Boundary
-  Buffer 150m



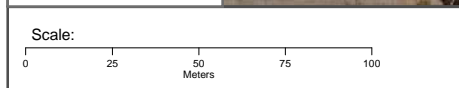
Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 54

Date: 10 February 2023

Aerial Imagery 2007

700 Grand Junction Road, Oakden, SA 5086



Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 54



Date: 10 February 2023

Aerial Imagery 2002

700 Grand Junction Road, Oakden, SA 5086



Legend

-  Site Boundary
-  Buffer 150m

Scale:
0 25 50 75 100
Meters

Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 54



Date: 10 February 2023

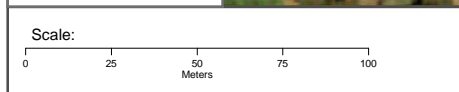
Aerial Imagery 1999

700 Grand Junction Road, Oakden, SA 5086



Legend

-  Site Boundary
-  Buffer 150m



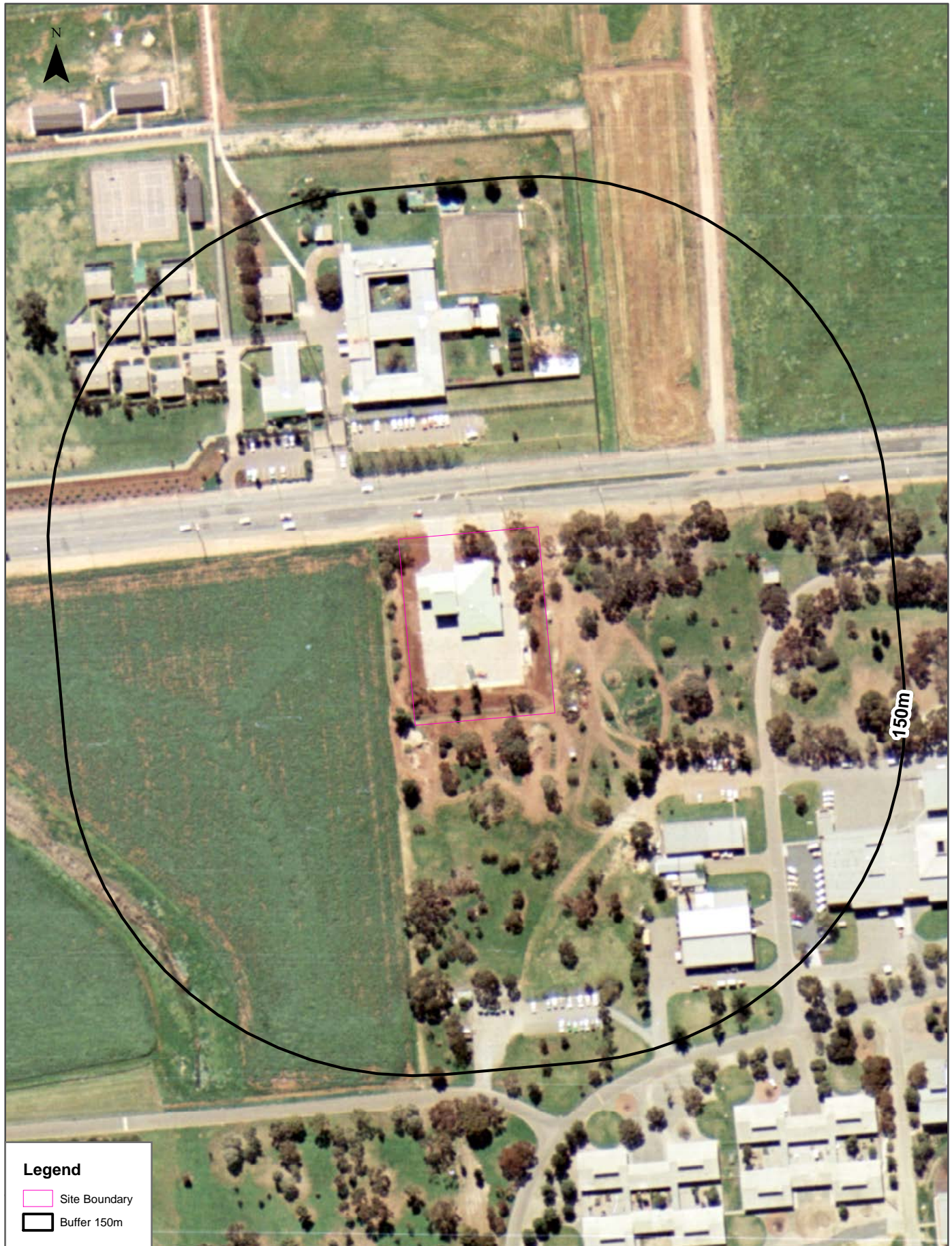
Data Sources Aerial Imagery: © South Australia
Department for Environment & Water

Coordinate System:
GDA 1994 MGA Zone 54



Date: 09 February 2023

Aerial Imagery 1989

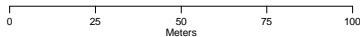
700 Grand Junction Road, Oakden, SA 5086



Legend

-  Site Boundary
-  Buffer 150m

Scale:



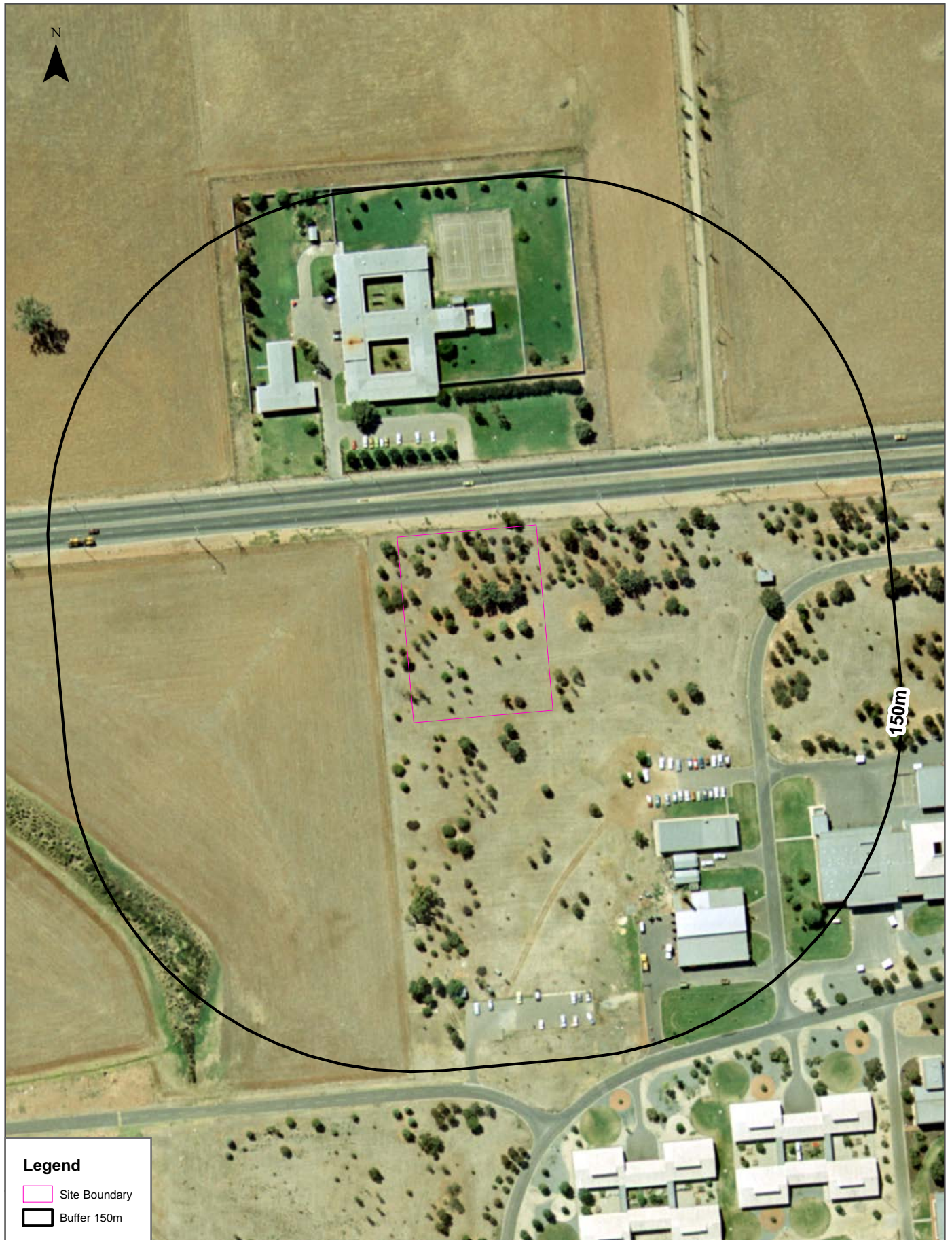
Data Sources Aerial Imagery: © South Australia
Department for Environment & Water

Coordinate System:
GDA 1994 MGA Zone 54

Date: 09 February 2023

Aerial Imagery 1979

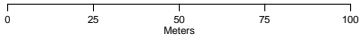
700 Grand Junction Road, Oakden, SA 5086



Legend

- Site Boundary
- Buffer 150m

Scale:



Data Sources Aerial Imagery: © South Australia
Department for Environment & Water

Coordinate System:
GDA 1994 MGA Zone 54



Date: 09 February 2023

Aerial Imagery 1968

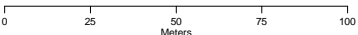
700 Grand Junction Road, Oakden, SA 5086



Legend

-  Site Boundary
-  Buffer 150m

Scale:



0 25 50 75 100
Meters

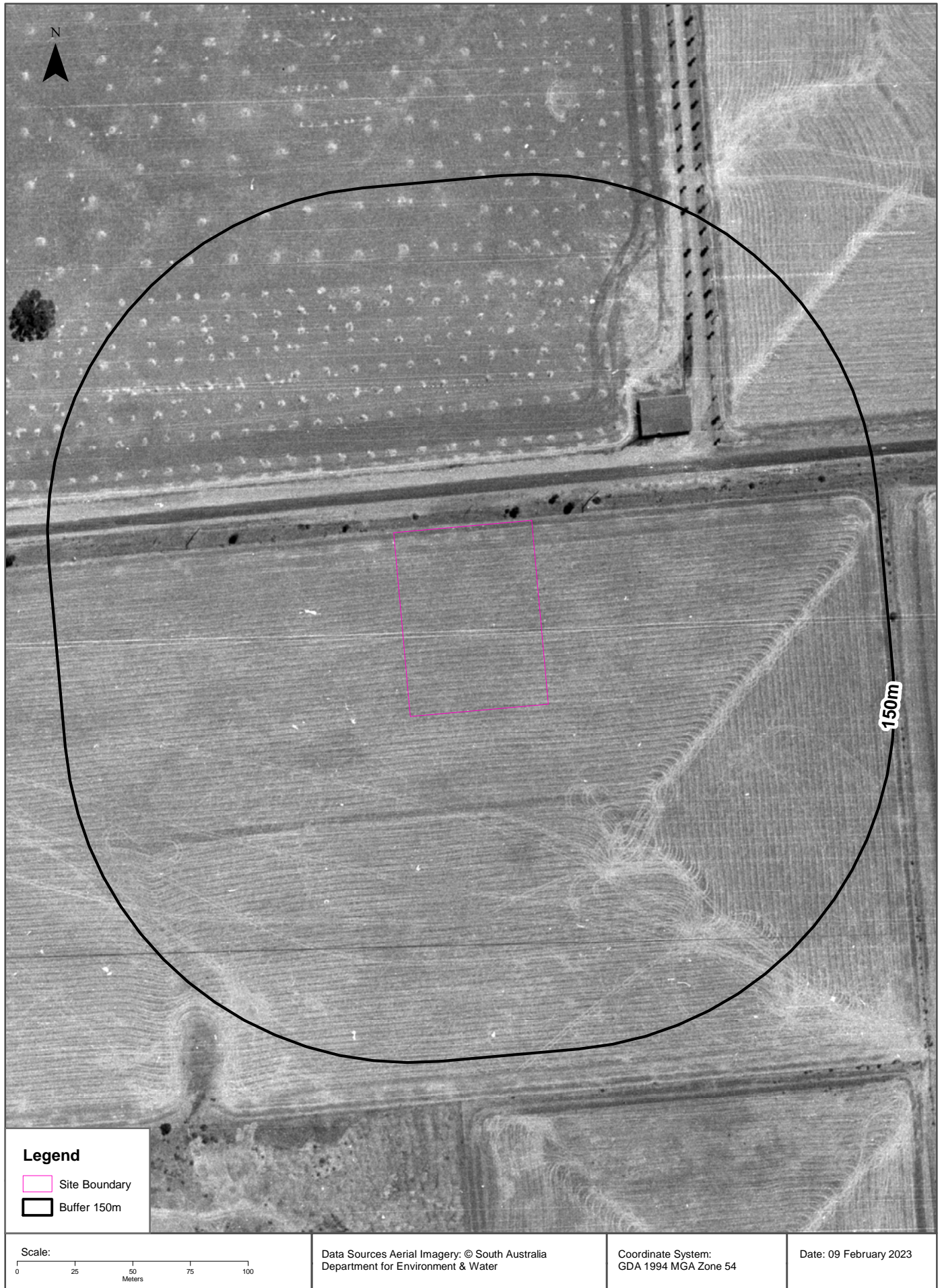
Data Sources Aerial Imagery: © South Australia
Department for Environment & Water

Coordinate System:
GDA 1994 MGA Zone 54

Date: 09 February 2023

Aerial Imagery 1959

700 Grand Junction Road, Oakden, SA 5086



Aerial Imagery 1949

700 Grand Junction Road, Oakden, SA 5086



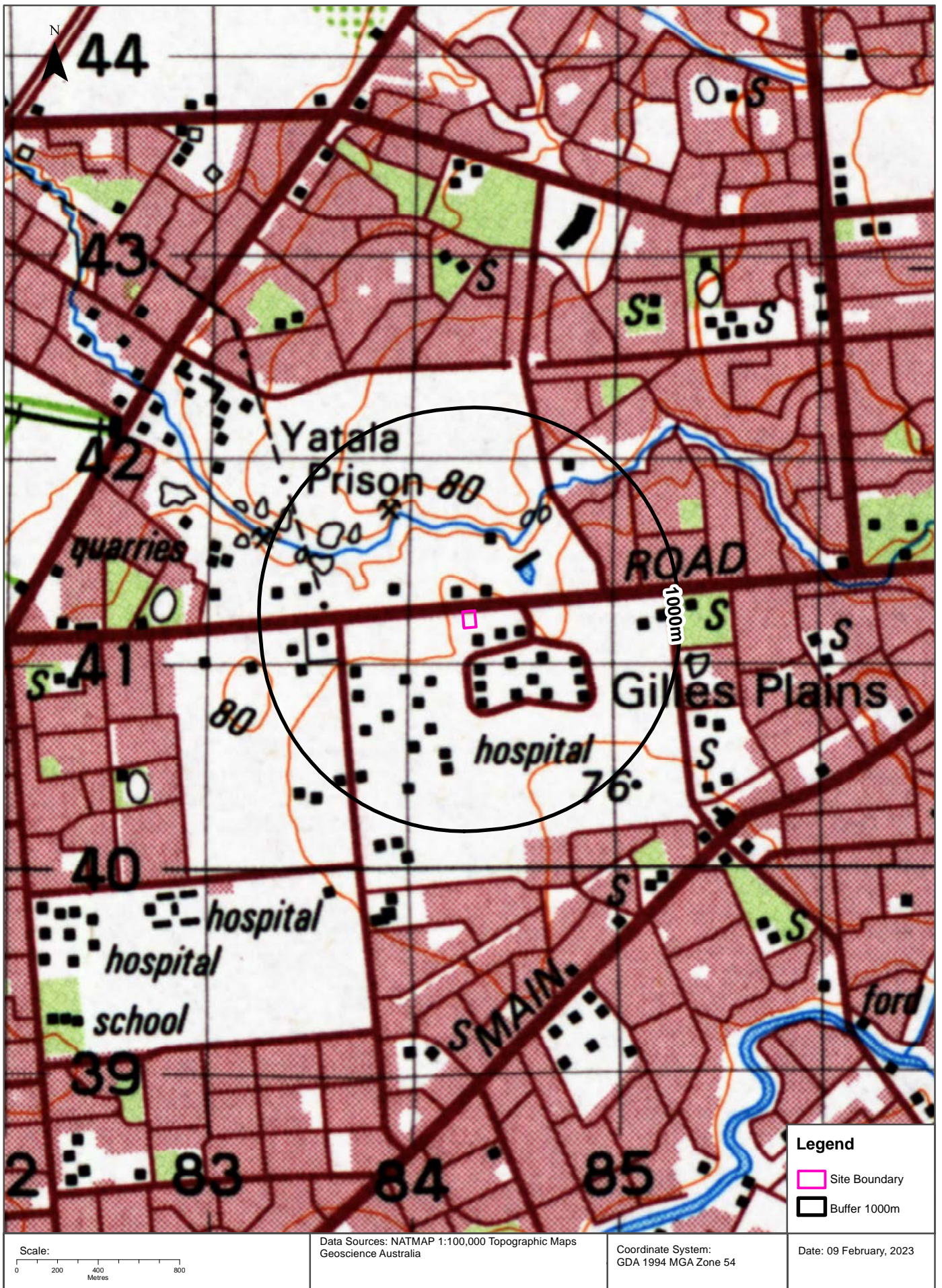
Aerial Imagery 1936

700 Grand Junction Road, Oakden, SA 5086



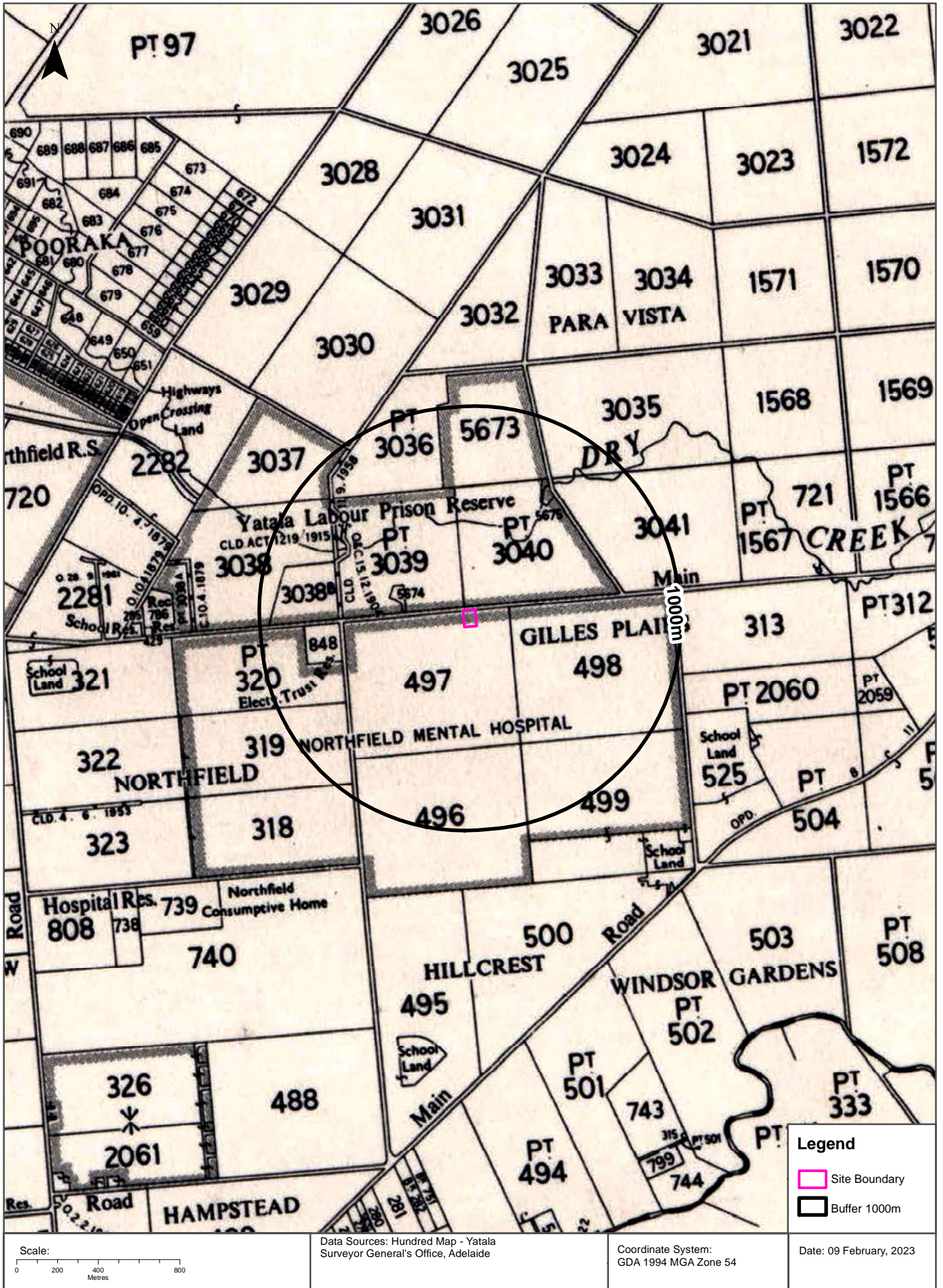
Historical Map 1982

700 Grand Junction Road, Oakden, SA 5086



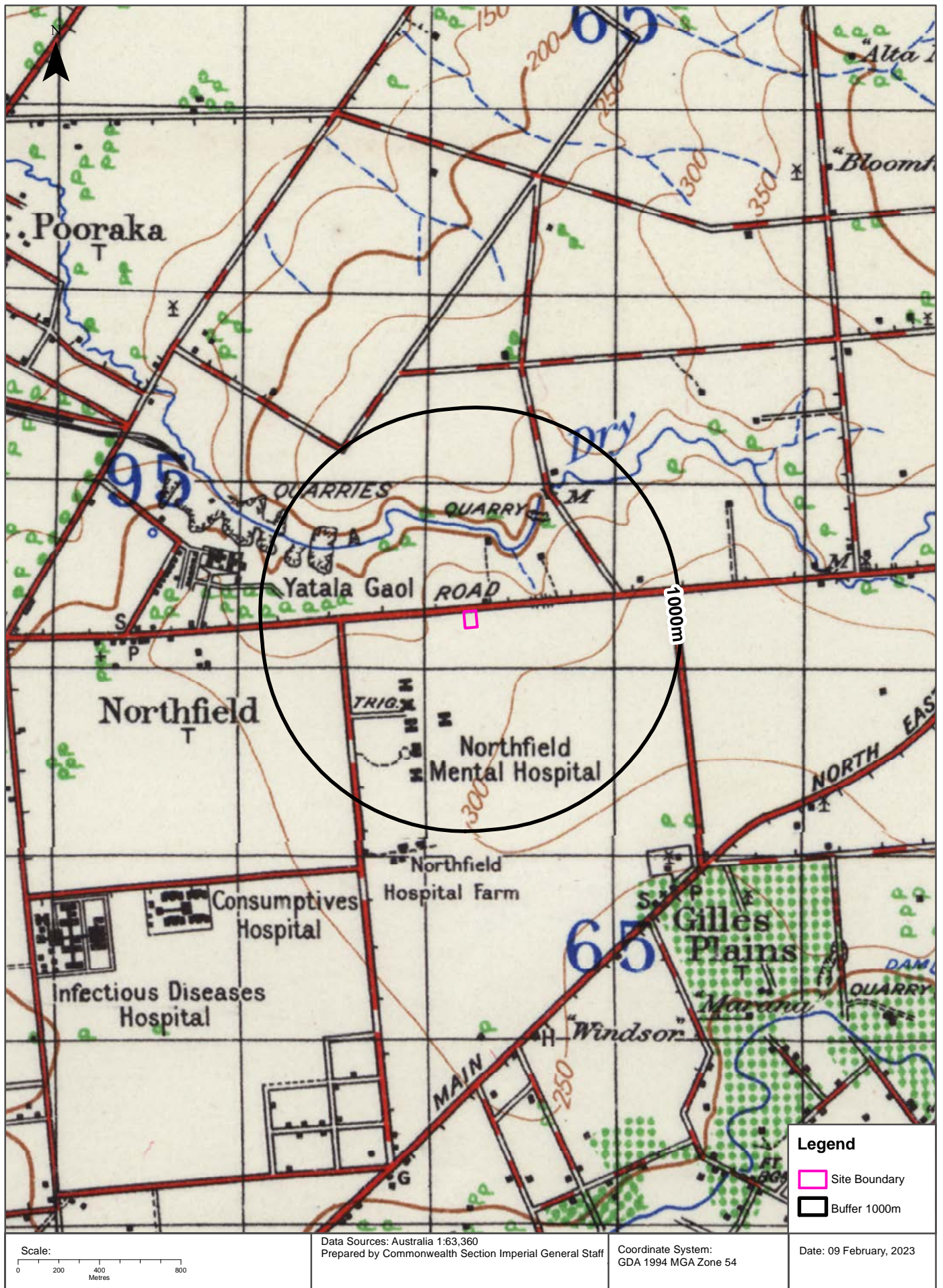
Historical Map 1962

700 Grand Junction Road, Oakden, SA 5086



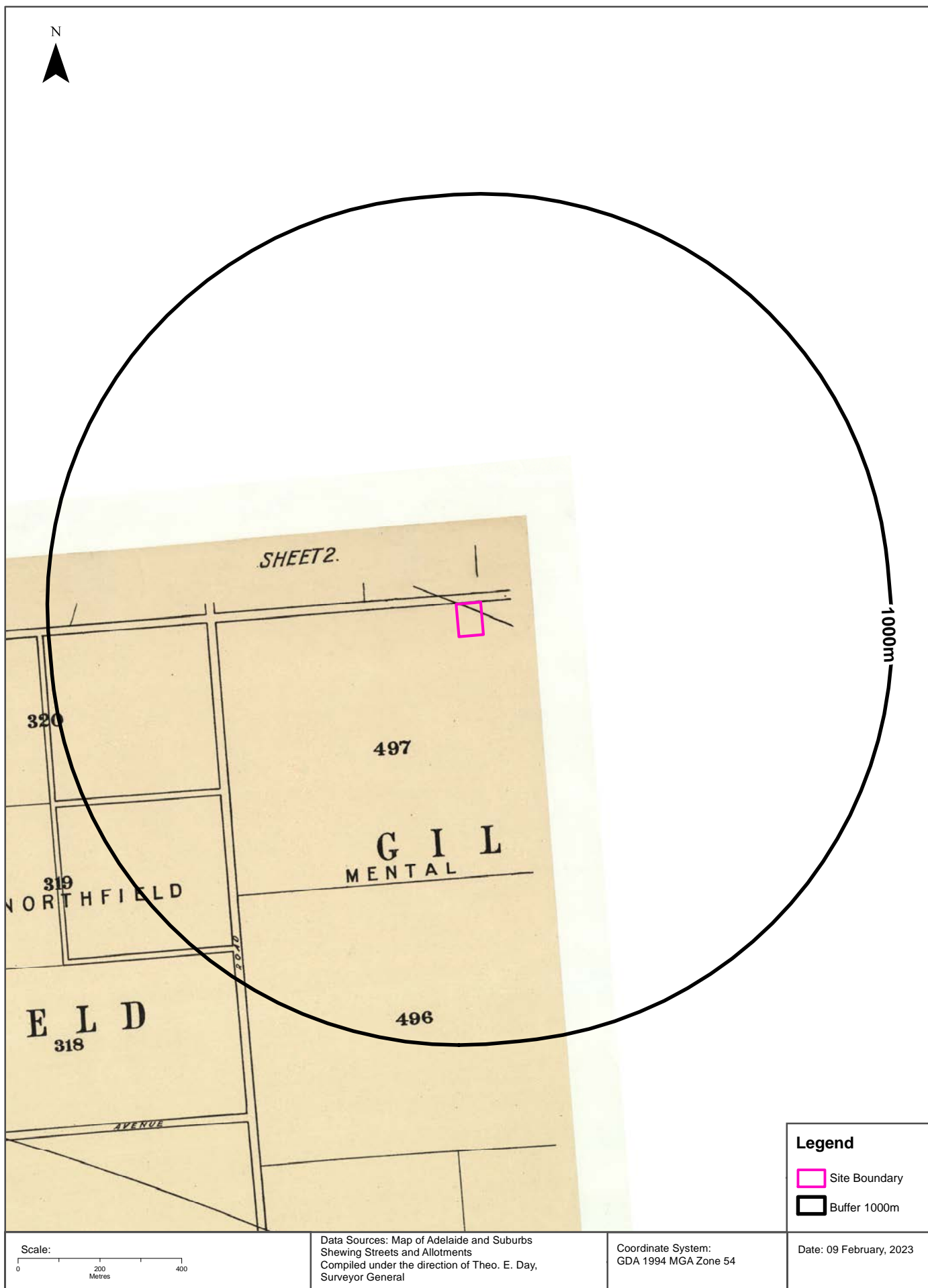
Historical Map c.1937

700 Grand Junction Road, Oakden, SA 5086



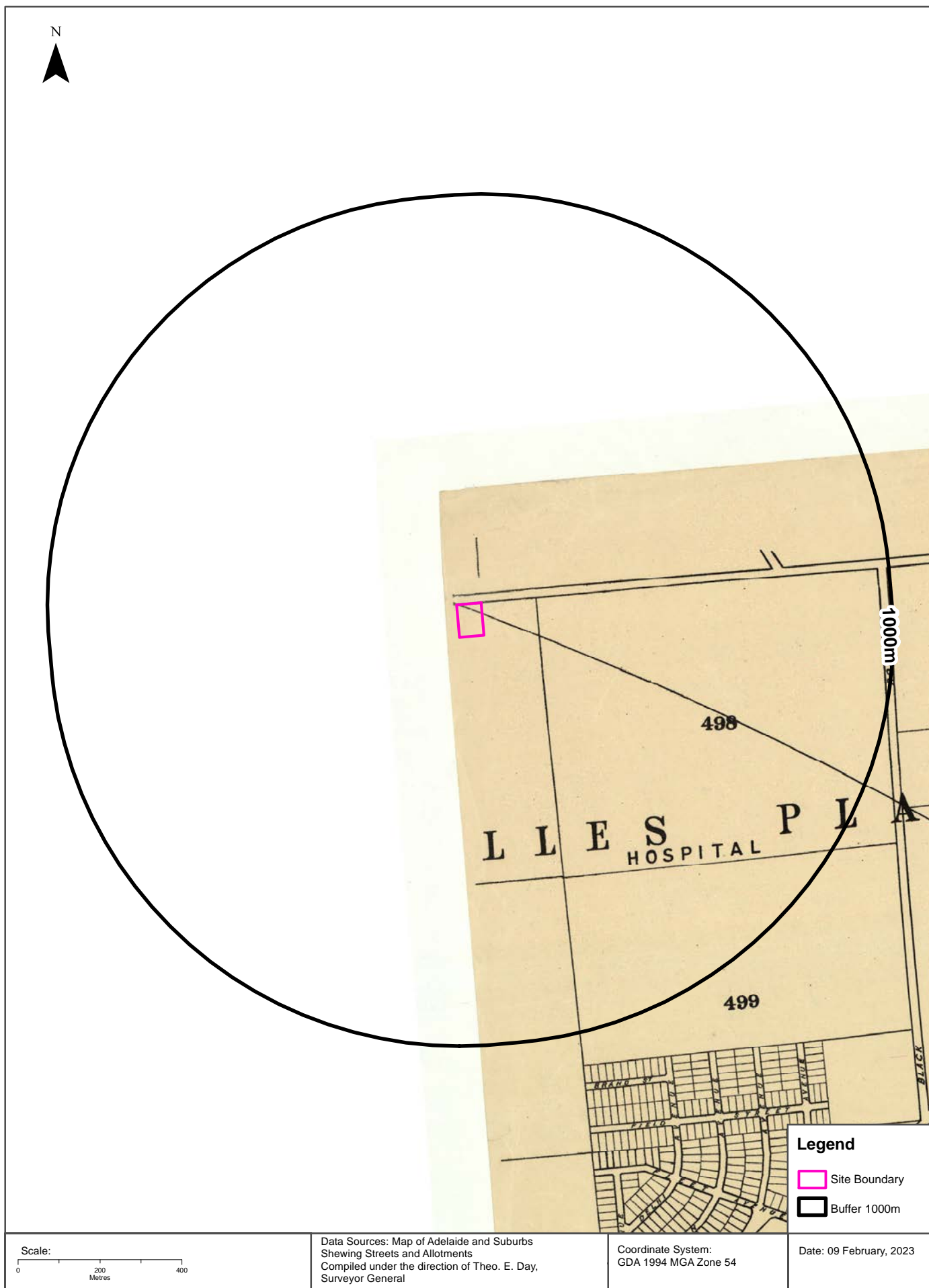
Historical Map 1927

700 Grand Junction Road, Oakden, SA 5086



Historical Map 1927

700 Grand Junction Road, Oakden, SA 5086



Scale:
0 200 400
Metres

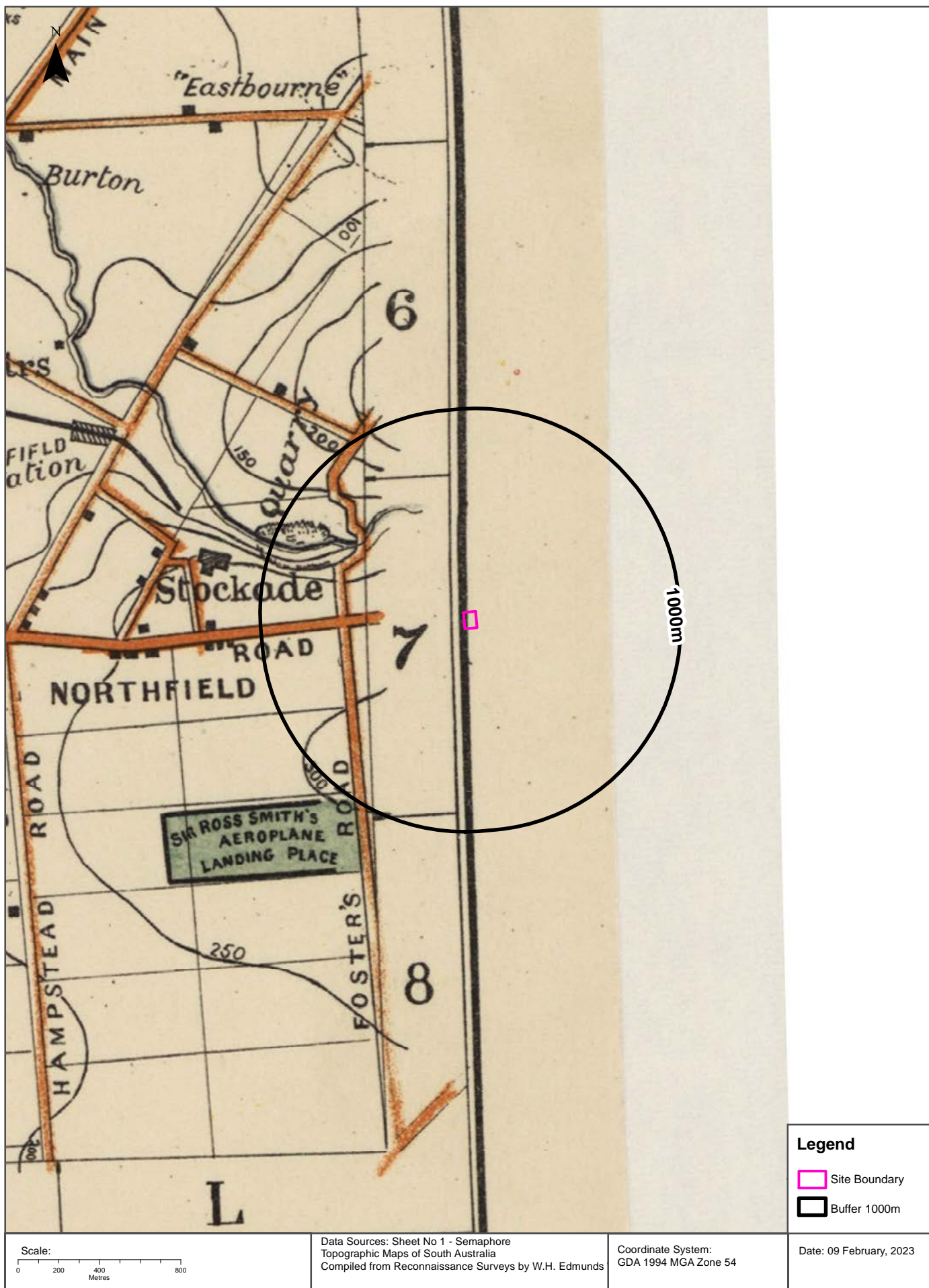
Data Sources: Map of Adelaide and Suburbs
Shewing Streets and Allotments
Compiled under the direction of Theo. E. Day,
Surveyor General

Coordinate System:
GDA 1994 MGA Zone 54

Date: 09 February, 2023

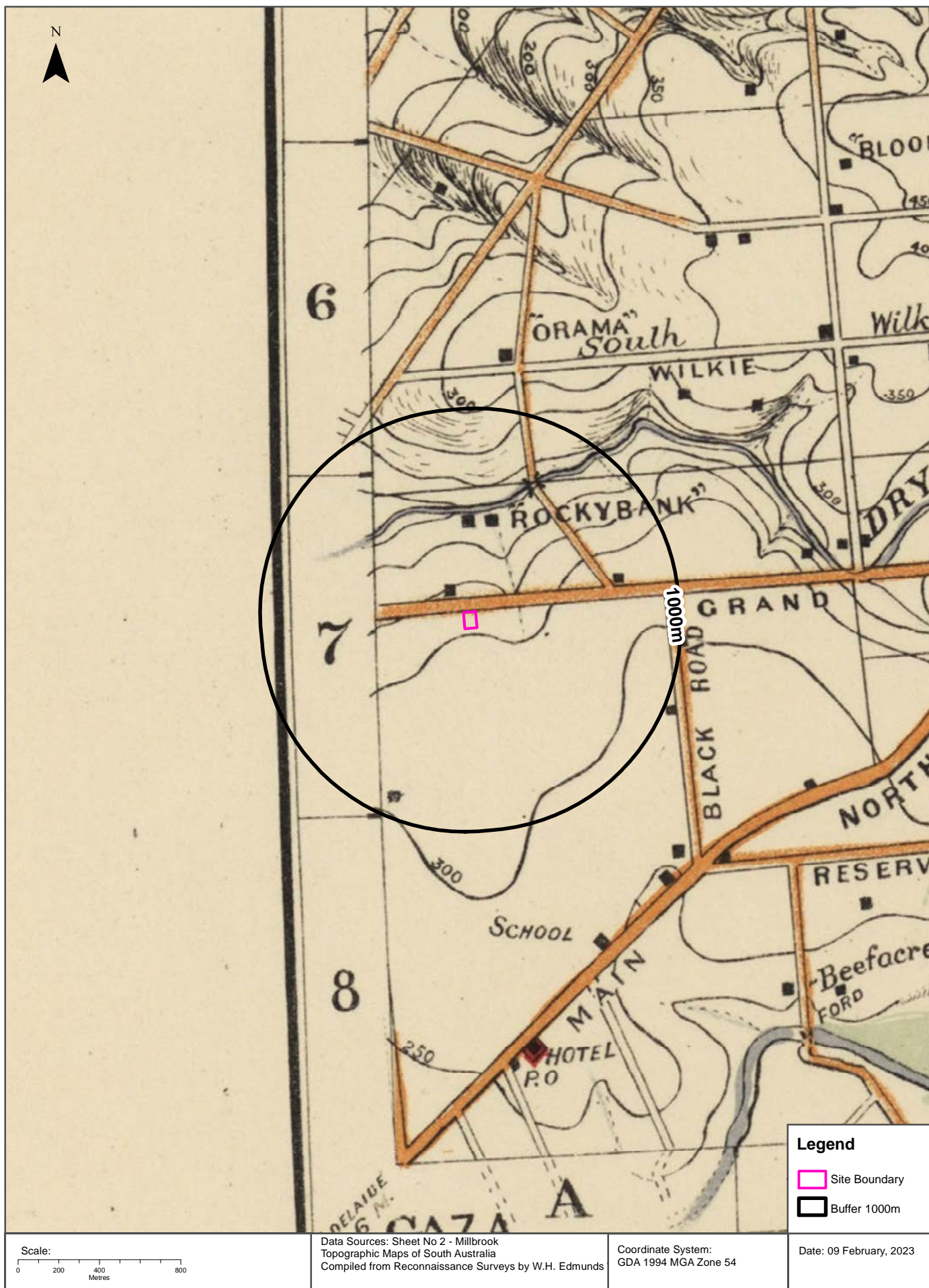
Historical Map 1926

700 Grand Junction Road, Oakden, SA 5086



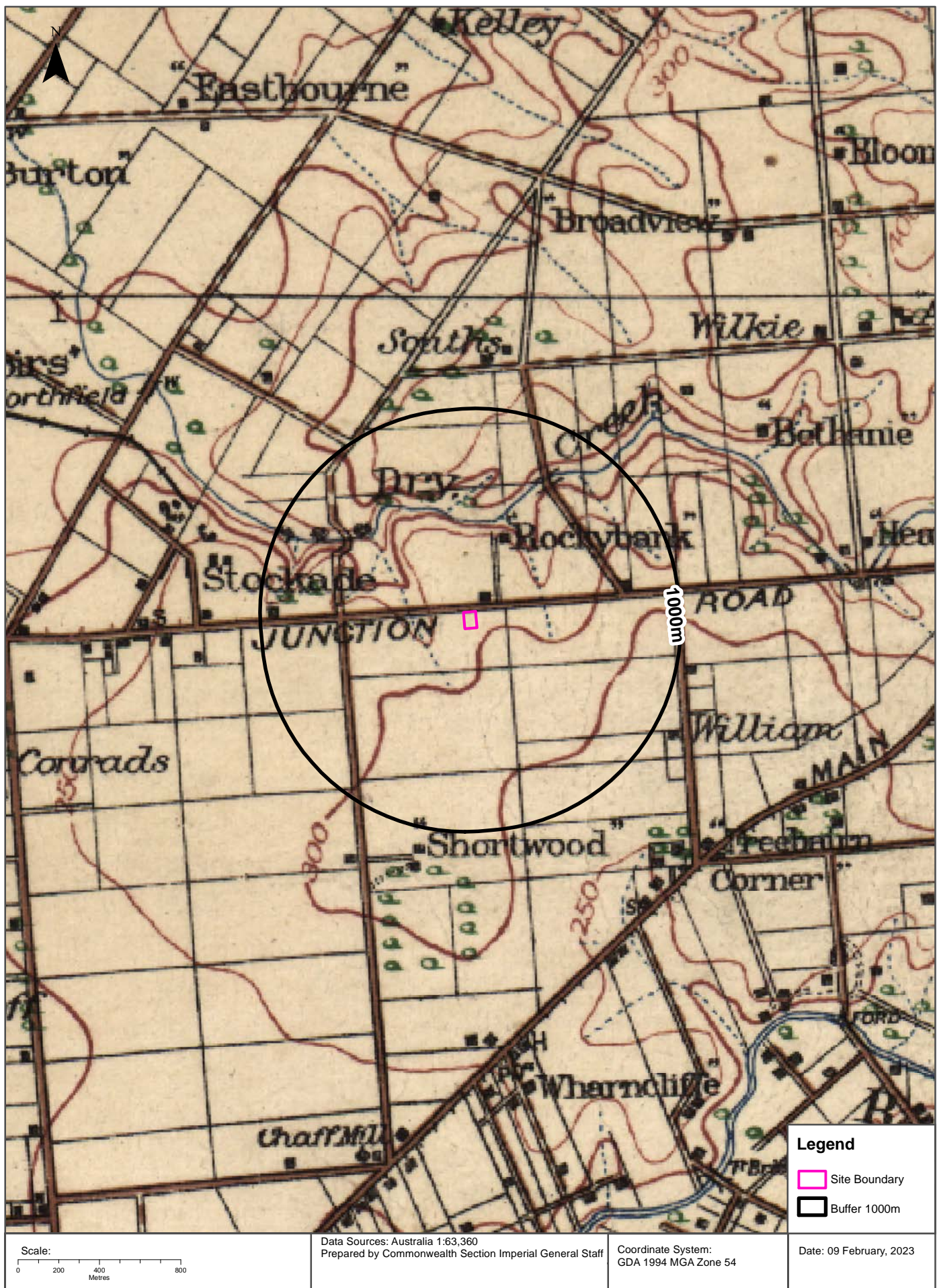
Historical Map 1926

700 Grand Junction Road, Oakden, SA 5086



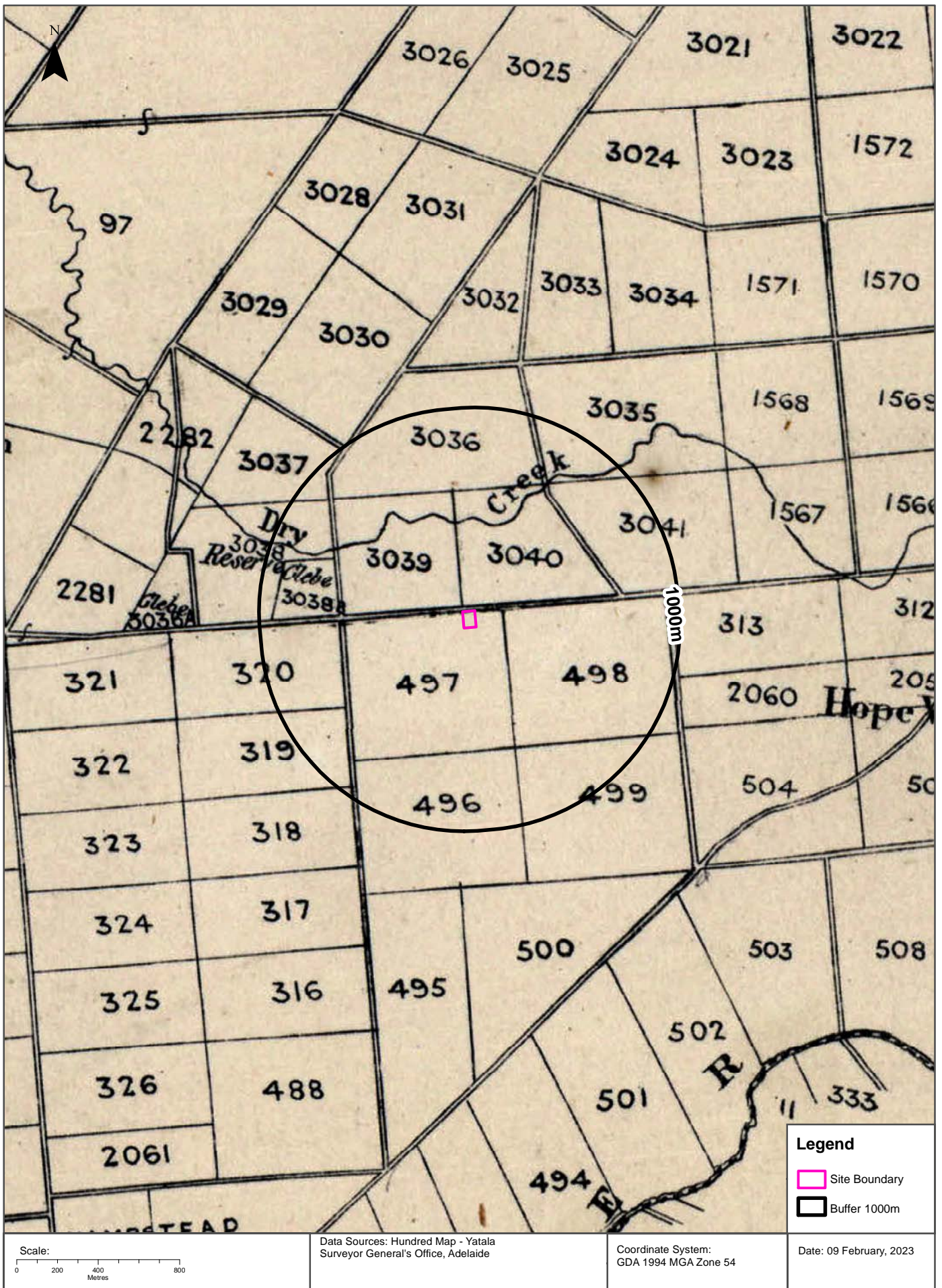
Historical Map c.1914

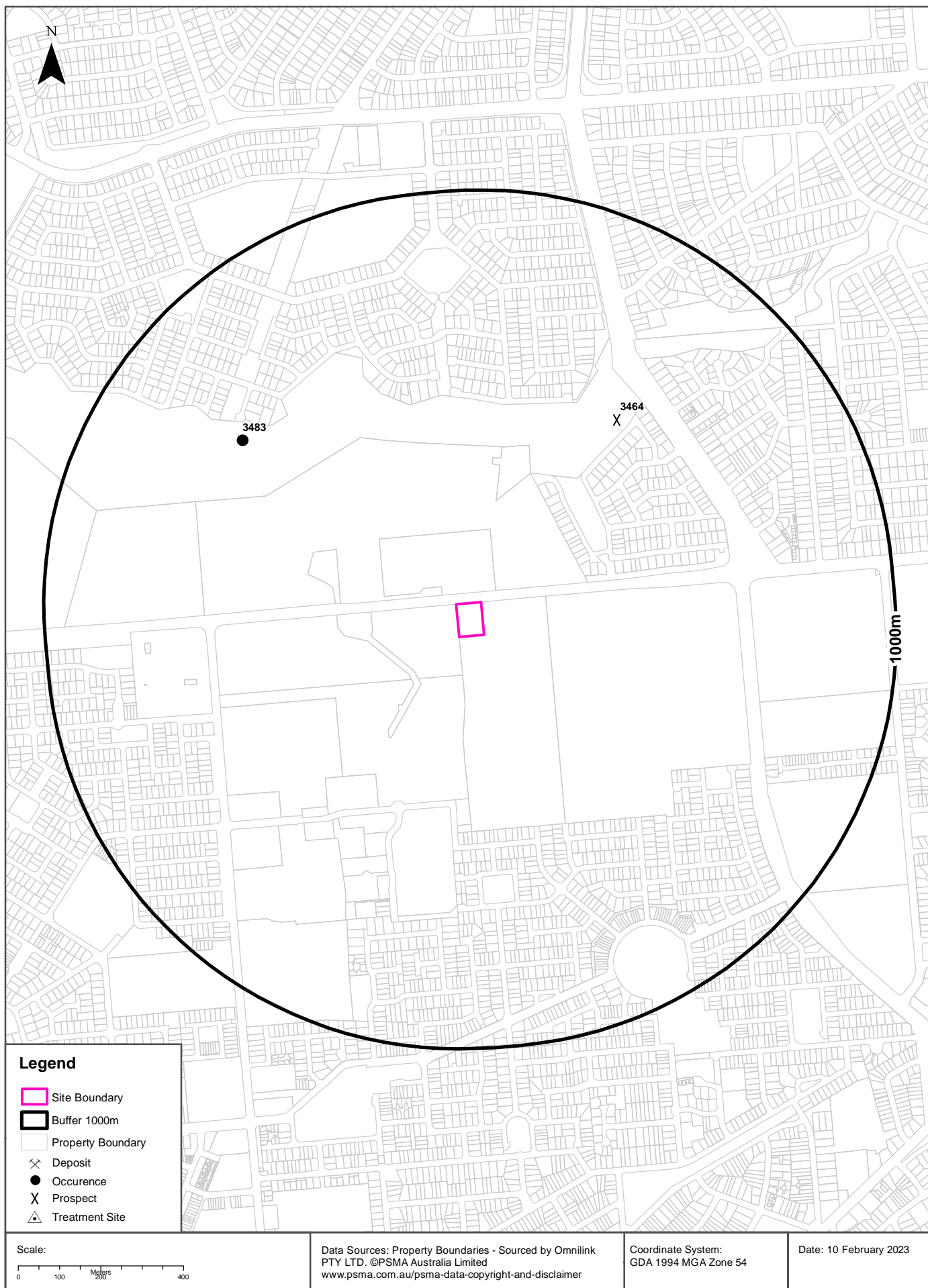
700 Grand Junction Road, Oakden, SA 5086



Historical Map 1876

700 Grand Junction Road, Oakden, SA 5086





Mining

700 Grand Junction Road, Oakden, SA 5086

Mines and Mineral Deposits

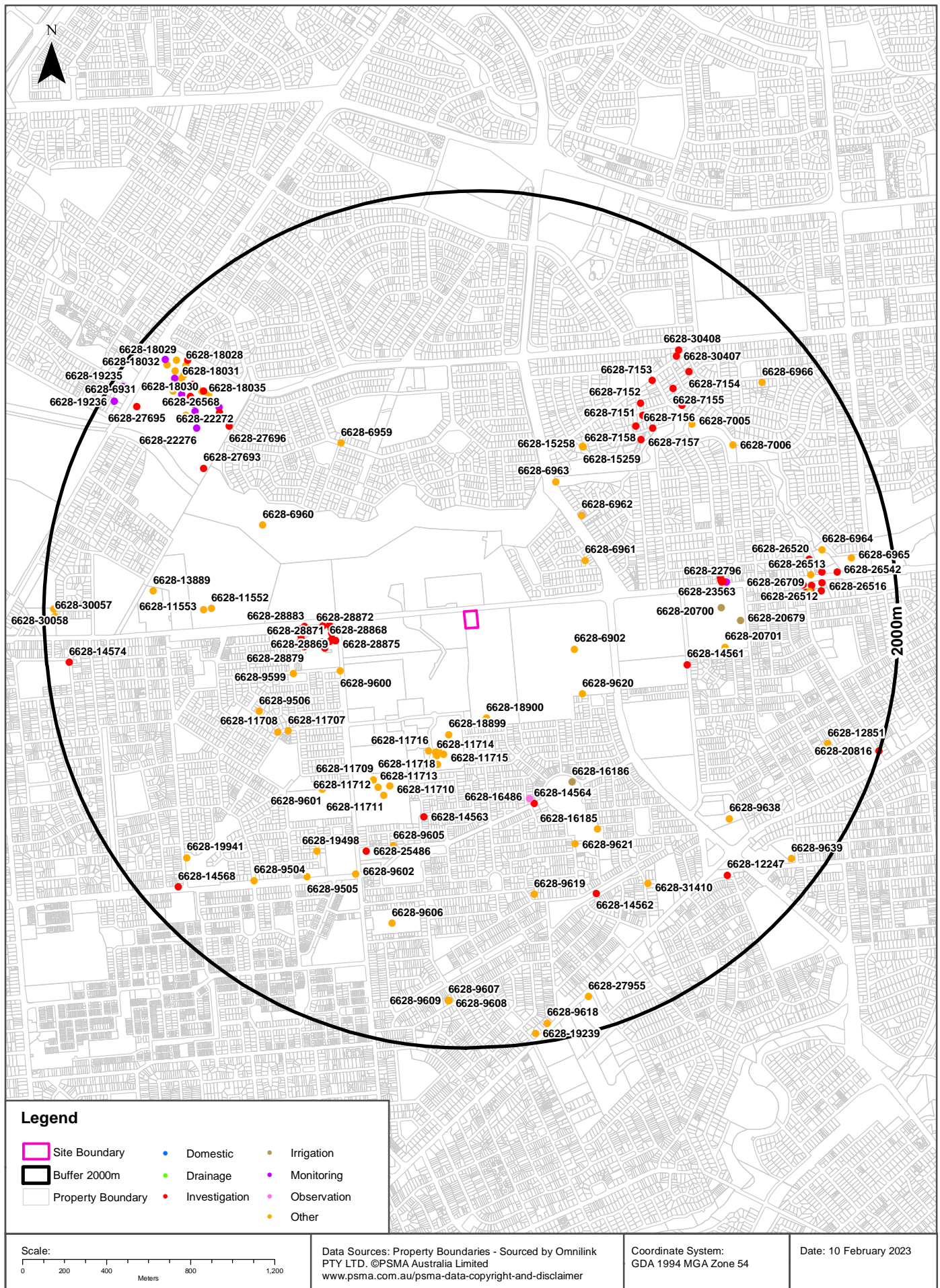
Mines and mineral deposits within the dataset buffer:

Deposit No.	Name	Class	Status	Commodity	Year	Description	Dist	Dir
3464	WALKERS NORTHFIELD	PROSPECT	Rehabilitated	Quartzite, Shale, Slate	1890	2 workings either side of Dry Creek worked on a quartzite bed to 12-15 m wide, and slate both of the Saddleworth Formation, for road metal. It opened in the 1890s, active in the late 1920s.	551m	North East
3483	DRY CREEK BLUESTONE	OCCURRENCE	Rehabilitated	Quartzite, Sandstone, Slate	1850	workings on Saddleworth Formation quartzite, slate and sandstone. Opened in 1850 for road metal and building stone, operating until 1927. The old quarries were stabilised and fenced between 1995 and 1999.	652m	North West

All Mines and Mineral Deposits Data Source: Dept. of State Development, Resources and Energy - South Australia
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Drillholes

700 Grand Junction Road, Oakden, SA 5086



Groundwater and Drillholes

700 Grand Junction Road, Oakden, SA 5086

Groundwater Aquifers

Groundwater aquifers within the dataset buffer:

Aquifer Code	Description	Distance	Direction
20	Sedimentary Rocks - basins include limestone, often cavernous, sandstone, sand shale and clay	0m	On-site
30	Fractured Rocks - Cambrian and Precambrian rocks - quartzite, sandstone, limestone, dolomite, slate, marble, siltstone, phyllite, schist and gneiss	26m	North

Groundwater Aquifers Data Source: Dept. of Environment, Water and Natural Resources - South Australia
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Drillholes

Drillholes within the dataset buffer:

Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
6628-18900	168514		Backfilled	Environmental; Recreational	1998-03-11	91.00		86.12		2944	5260	5.0000				434m	South
6628-6902	53871	STRATHMONT HTC 2	Unknown		1967-06-16	15.24		81.46								469m	East
6628-18899	168513			Environmental; Recreational	1998-03-11	84.00		85.83		2909	5200	10.0000	31.00	31.00	54.83	513m	South
6628-6961	53930					37.19		85.04		4090	7255					570m	North East
6628-9620	56589	STRATHMONT HTC 1	Unknown		1967-06-09	16.92		86.92								590m	South East
6628-11717	58686	PUB. BLDGS DEPT.	Abandoned		1981-03-05	4.90		86.84								596m	South
6628-11718	58687	PUB. BLDGS DEPT.	Abandoned		1981-03-05	4.90		86.90								606m	South
6628-11715	58684	PUB. BLDGS DEPT.	Abandoned		1981-03-05	3.75		86.67								608m	South
6628-11716	58685	PUB. BLDGS DEPT.	Abandoned		1981-03-05	3.50		87.02								609m	South
6628-11714	58683	PUB. BLDGS DEPT	Abandoned		1981-03-05	4.50		86.84								621m	South
6628-28869	295064	MW 2		Investigation	2017-02-10	4.00							1.50	1.50		621m	West
6628-28875	295070	MW 9		Investigation	2017-02-14	3.00							1.50	1.50		621m	West
6628-9600	56569	SA DEPT OF MINES			1950-05-16	39.01		80.38								630m	West
6628-28871	295066	MW 4		Investigation	2017-02-14	3.50							1.50	1.50		636m	West
6628-28872	295067	MW 5		Investigation	2017-02-10	2.50							0.90	0.90		637m	West
6628-28870	295065	MW 3		Investigation	2017-02-14	4.00							1.50	1.50		638m	West

Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
6628-28873	295068	MW 7		Investigation	2017-02-14	3.00							1.00	1.00		645m	West
6628-28868	295063	MW 1		Investigation	2017-02-10	4.00							1.50	1.50		648m	West
6628-11713	58682	PUB. BLDGS DEPT	Abandoned		1981-03-05	4.30		86.70								662m	South
6628-28874	295069	MW 8		Investigation	2017-02-14	2.50							1.20	1.20		675m	West
6628-6962	53931		Abandoned			12.19		76.29								676m	North East
6628-28882	295077	MW 18		Investigation	2017-02-14	4.00							1.00	1.00		677m	West
6628-28880	295075	MW 15		Investigation	2017-02-10	4.00							1.10	1.10		684m	West
6628-6963	53932							62.03		3875	6885					722m	North East
6628-28881	295076	MW 16		Investigation		4.00							1.20	1.20		729m	West
6628-28883	295078	MW 19		Investigation		3.10										764m	West
6628-28879	295074	MW 13		Investigation	2017-02-09	4.00										773m	West
6628-28876	295071	MW 10		Investigation	2017-02-09	4.00							1.20	1.20		780m	West
6628-28877	295072	MW 11		Investigation	2017-02-09	4.00							1.00	1.00		783m	West
6628-28878	295073	MW 12		Investigation	2017-02-09	4.00							1.20	1.20		787m	West
6628-28884	295079	MW 22		Investigation	2017-02-09	3.00							1.00	1.00		789m	West
6628-11710	58679	PUB. BLDGS DEPT	Abandoned			4.55		86.75								832m	South West
6628-11709	58678	PUB BLDNGS DEPT	Abandoned			5.75		86.37								843m	South West
6628-9599	56568	SA DEPT OF MINES			1950-07-12	23.16		78.42								848m	West
6628-16486	138423		Operational as required	Observation	1993-10-14	80.00		80.19	7.70	1446	2610	16.5000				853m	South
6628-16186	130545		Operational as required	Irrigation; Observation	1992-12-10	35.00		79.33	7.70	3586	6380	15.0000	0.00	0.00	79.33	863m	South East
6628-11712	58681	PUB. BLDGS DEPT	Abandoned			6.30		86.60								864m	South West
6628-14564	61533	GH 59	Abandoned	Investigation	1983-03-23	9.00	80.00									880m	South
6628-11711	58680	PUB. BLDGS DEPT	Abandoned			5.70		86.76								884m	South West
6628-14563	61532	GH 58	Abandoned	Investigation	1983-03-21	5.25	87.00									917m	South
6628-15259	62228		Backfilled		1990-03-07	63.00		76.52								930m	North East
6628-15258	62227		Backfilled		1990-05-01	83.80		76.86	7.90	1917	3450					932m	North East
6628-11707	58676	DEPT OF AGRIC				4.60		81.75								975m	South West
6628-6959	53928			Exploration	1965-04-07	13.11		79.70								995m	North West
6628-14561	61530	GH 56	Abandoned	Investigation	1983-03-18	9.75	89.00									1011m	East
6628-11708	58677	DEPT OF AGRIC				4.45		80.91								1020m	South West
6628-9601	56570	AGRICULTURE 1	Unknown		1972-03-09	18.10		85.36								1025m	South West
6628-6960	53929						50.00		7.95	2446	3715					1044m	North West

Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
6628-9506	56475	SA DEPT OF MINES		Construction Materials	1950-07-05	13.72		79.60								1058 m	South West
6628-9605	56574		Abandoned			33.53		86.13								1091 m	South
6628-16185	130544		Not In Use	Managed Aquifer Recharge (incl ASR)	1992-12-05	80.50		78.36	7.30	1737	3130	15.0000	14.00	14.00	64.36	1116 m	South East
6628-9621	56590							78.76								1129 m	South East
6628-7157	54126	ADELAIDE CEMENT 7	Unknown	Investigation	1956-04-20	30.56	89.00									1132 m	North East
6628-7158	54127	ADELAIDE CEMENT 7A	Unknown	Investigation	1956-03-13	30.48	98.50									1160 m	North East
6628-20700	187916	BEN'S BORE (BORE 3)		Irrigation	2001-10-13	100.00		93.73	8.10	3909	6940	3.7500				1162 m	East
6628-25486	262040			Investigation	2010-10-06	26.00										1162 m	South West
6628-23562	238715	SB/MW 38	Backfilled	Investigation	2007-04-27	6.00		93.91								1172 m	East
6628-23563	238716	SB/MW 39	Backfilled	Investigation	2007-04-27	6.00		94.06								1172 m	East
6628-23564	238717	SB/MW 40	Backfilled	Investigation	2007-04-27	7.00		94.19								1174 m	East
6628-20701	187917	SITE 1				108.00		91.05				0.0500	24.00	24.00	67.05	1179 m	East
6628-23565	238718	SB/MW 41	Backfilled	Investigation	2007-04-27	5.00		94.32								1183 m	East
6628-22796	228462	SB/MW 32		Monitoring	2006-02-02	36.00		94.54					31.40	31.40	63.14	1198 m	East
6628-11552	58521	PUB. BLDGS DEPT.	Abandoned		1980-11-06	3.10		76.22								1203 m	West
6628-7159	54128	ADELAIDE CEMENT 8	Unknown	Investigation	1956-04-27	15.39	173.10									1208 m	North East
6628-7151	54120	ADELAIDE CEMENT 1	Unknown	Investigation	1956-03-16	21.34	90.70									1222 m	North East
6628-11553	58522	PUB BLDGS DEPT	Abandoned		1980-11-06	3.05		76.13								1238 m	West
6628-20679	187642	SITE 2	Backfilled	Irrigation	2001-07-20	196.00		93.95		4537	8020	0.2500	24.00	24.00	69.95	1250 m	East
6628-7152	54121	ADELAIDE CEMENT 2	Unknown	Investigation	1956-03-08	21.26	88.10									1261 m	North East
6628-19498	175132			Environmental; Recharge	1999-03-06	81.00		82.00		4216	7470	4.0000				1276 m	South West
6628-9602	56571	SA DEPT OF MINES			1950-04-19	38.10		83.64								1281 m	South West
6628-9619	56588	SA DEPT OF MINES			1950-06-13	14.63		81.02								1300 m	South
6628-7005	53974							65.13		3431	6112					1358 m	North East
6628-7153	54122	ADELAIDE CEMENT 3	Unknown	Investigation	1956-03-20	21.34	89.30									1380 m	North East

Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
6628-7156	54125	ADELAID E CEMENT 6	Unknown	Investigation	1956-04-04	18.29	84.60									1382 m	North East
6628-14562	61531	GH 57	Abandoned	Investigation	1983-03-21	10.50	78.00									1387 m	South East
6628-9505	56474							79.44								1402 m	South West
6628-7155	54124	ADELAID E CEMENT 5	Unknown	Investigation	1956-03-28	21.34		82.22								1413 m	North East
6628-27693	284583	BMW 6		Investigation	2015-02-20	24.00										1415 m	North West
6628-27696	284586	BMW 3		Investigation	2015-02-18	28.00										1426 m	North West
6628-9606	56575		Abandoned		1930-01-01	62.79		81.85		4390	7773	1.2600	34.14	34.14	47.71	1448 m	South
6628-7006	53975		Abandoned			4.57		67.47								1454 m	North East
6628-22281	206511	MW 15		Monitoring	2005-08-11	28.30		51.46					25.00	25.00	26.46	1463 m	North West
6628-31410	359462		Dry	Environmental	2021-07-30	5.00										1464 m	South East
6628-13889	60858		Backfilled		1986-11-17	119.00		70.64	7.30	3411	6076	0.6200				1484 m	West
6628-26568	272225	MW E		Investigation	2012-04-04	20.00							20.00	20.00		1500 m	North West
6628-9638	56607		Backfilled			60.96		79.28								1504 m	South East
6628-22272	206484	MW 10		Monitoring	2005-08-11	27.00		48.27					19.20	19.20	29.07	1520 m	North West
6628-7154	54123	ADELAID E CEMENT 4	Unknown	Investigation	1956-03-23	27.43	94.80									1521 m	North East
6628-22276	206488	MW 11		Monitoring	2005-08-08	19.10		42.86					13.00	13.00	29.86	1543 m	North West
6628-30407	325687			Investigation	2018-02-22	20.00										1543 m	North East
6628-26512	271957	MW 12		Investigation	2012-12-05	18.00						0.0010	16.50	16.50		1559 m	East
6628-9504	56473	SA DEPT OF MINES		Construction Materials	1950-06-28	20.12		75.26								1567 m	South West
6628-26710	274384	MW 6		Investigation	2012-08-10	16.00							9.50	9.50		1572 m	East
6628-30408	325688			Investigation	2018-02-22	20.00										1572 m	North East
6628-30706	335561		Backfilled													1587 m	East
6628-26515	271961	MW 13		Investigation	2012-12-07	20.00						0.0010	17.00	17.00		1589 m	East
6628-18036	162048	NORTHFIELD 9	Unknown		1957-12-31	2.90	79.30									1594 m	North West
6628-26712	274386			Investigation	2012-08-09	19.00							16.50	16.50		1597 m	East
6628-22273	206485	MW 8		Monitoring	2005-08-10	16.00		41.79					14.80	14.80	26.99	1598 m	North West
6628-26709	274383	MW 4		Investigation	2012-08-03	16.50							11.50	11.50		1599 m	East
6628-26513	271958	MW 10			2012-12-06	16.00										1600 m	East
6628-26520	271970			Investigation	2012-12-07	12.00						0.0010	8.00	8.00		1601 m	East
6628-26564	272221	MW A	Dry		2012-04-03	9.50										1622 m	North West
6628-22282	206512	MW 12		Monitoring	2005-08-12	12.00		41.46					8.50	8.50	32.96	1625 m	North West

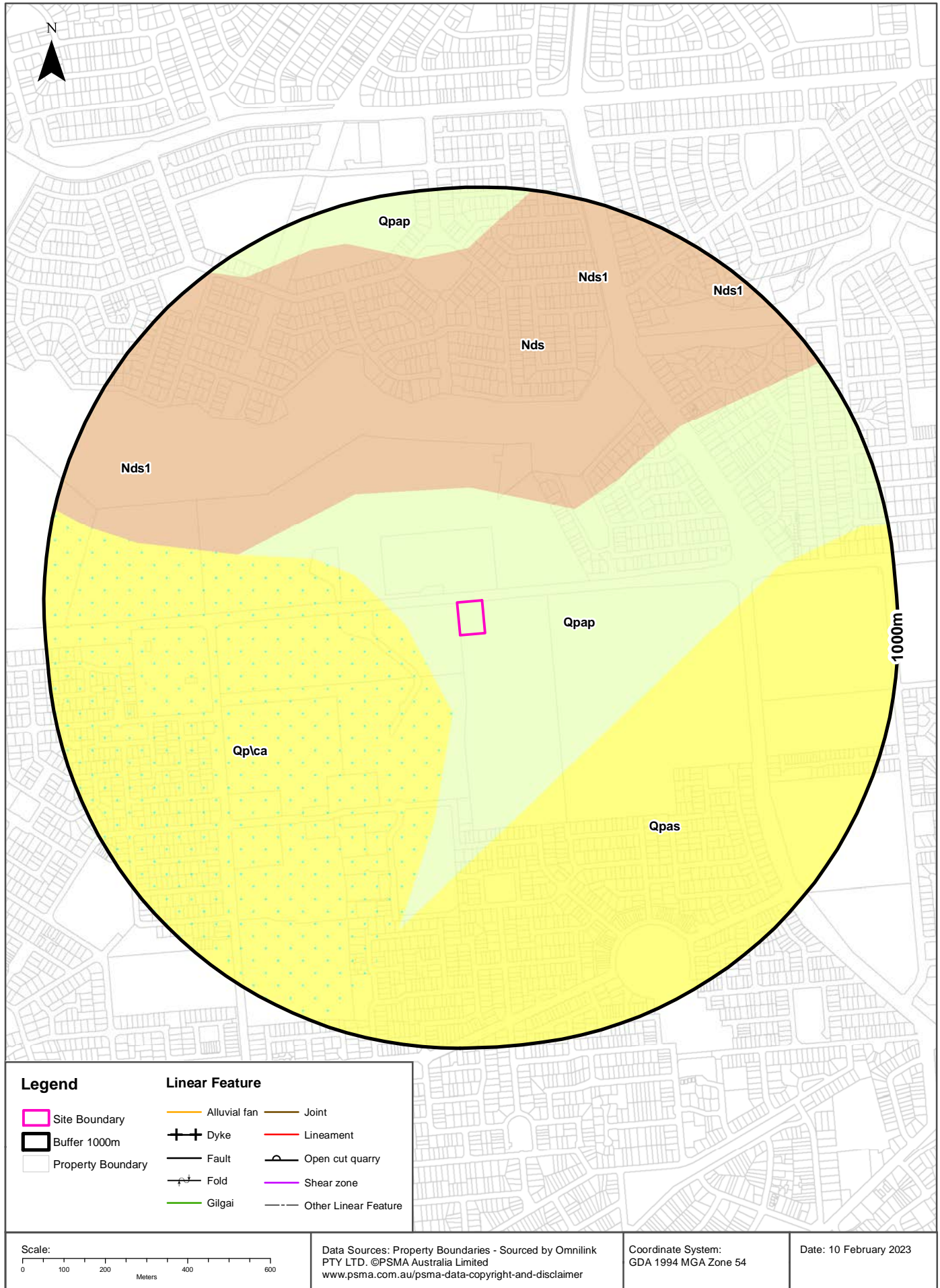
Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
6628-26567	272224	MW D	Dry	Investigation	2012-04-03	11.00										1626 m	North West
6628-18035	162047	NORTHFI ELD 8	Unknown		1957-12-31	2.97	77.30									1634 m	North West
6628-26514	271959	MW 8		Investigation	2012-12-05	18.00						0.0010	15.00	15.00		1643 m	East
6628-26516	271962	MW 14		Investigation	2012-12-05	15.00						0.0100	12.00	12.00		1651 m	East
6628-26711	274385	MW 7		Investigation	2012-08-08	16.50							15.50	15.50		1654 m	East
6628-26565	272222	MW B		Investigation	2012-04-03	10.00							9.50	9.50		1658 m	North West
6628-18034	162046	NORTHFI ELD 7	Unknown		1957-12-31	2.90	76.20									1659 m	North West
6628-6964	53933						72.00			4090	7255	3.7900				1670 m	East
6628-12247	59216	GH 60	Abandoned	Investigation	1983-03-24	10.50	76.08	76.18								1672 m	South East
6628-26566	272223	MW C	Dry	Investigation	2012-04-03	13.50										1686 m	North West
6628-22283	206513	MW 14		Monitoring	2005-08-12	16.30		41.16					12.50	12.50	28.66	1698 m	North West
6628-19941	177661	MAR	Not In Use	Managed Aquifer Recharge (incl ASR)	1999-11-27	94.00		73.22		440	800	7.0000	42.80	42.80	30.42	1719 m	South West
6628-26542	272058	MW 9		Investigation	2012-12-06	10.40						1.0000	7.40	7.40		1725 m	East
6628-18037	162049	NORTHFI ELD 10	Unknown		1957-12-31	3.05	68.80									1739 m	North West
6628-6966	53935					7.62	102.00			4260	7548	2.5300	6.10	6.10	95.90	1741 m	North East
6628-18033	162045	NORTHFI ELD 6	Unknown		1957-12-31	3.05	73.20									1745 m	North West
6628-18030	162042	NORTHFI ELD 3	Unknown		1957-12-31	5.28	73.90									1747 m	North West
6628-12851	59820		Abandoned		1984-04-02	24.50		92.47								1755 m	East
6628-18028	162040	NORTHFI ELD 1	Unknown		1957-12-31	2.90	73.80									1769 m	North West
6628-22275	206487	MW 9		Monitoring	2005-08-09	21.50		41.86					15.50	15.50	26.36	1770 m	North West
6628-9607	56576	SA HOUSING TRUST	Abandoned		1952-10-21	4.27		77.50								1773 m	South
6628-9608	56577	SA HOUSING TRUST	Abandoned		1952-10-22	4.27		77.50								1773 m	South
6628-9609	56578	SA HOUSING TRUST	Abandoned		1952-10-22	4.27		77.50								1773 m	South
6628-9610	56579	SA HOUSING TRUST	Abandoned		1952-10-22	4.27		77.50								1773 m	South
6628-9611	56580	SA HOUSING TRUST	Abandoned		1952-10-23	4.27		77.50								1773 m	South
6628-9612	56581	SA HOUSING TRUST	Abandoned		1952-10-23	4.27		77.50								1773 m	South
6628-9613	56582	SA HOUSING TRUST	Abandoned		1952-10-23	4.27		77.50								1773 m	South
6628-9614	56583	SA HOUSING TRUST	Abandoned		1952-10-24	4.27		77.50								1773 m	South
6628-9615	56584	SA HOUSING TRUST	Abandoned		1952-10-24	4.27		77.50								1773 m	South
6628-27694	284584	BH 5		Investigation	2015-02-19	20.00										1780 m	North West

Unit No	Drillhole No	Name	Status	Purpose	Drill Date	Max Depth	Ref Elev	Ground Elev	PH	TDS	EC	Yield	DTW	SWL	RSWL	Dist	Dir
6628-18031	162043	NORTHFI ELD 4	Unknown		1957-12-31	5.18	73.90									1791 m	North West
6628-14565	61534	GH 62	Abandoned	Investigation	1983-03-28	9.75	76.50									1796 m	South
6628-6965	53934					9.14	78.00			3474	6189	2.5300	4.57	4.57	73.43	1803 m	East
6628-18029	162041	NORTHFI ELD 2	Unknown		1957-12-31	3.05	72.50									1819 m	North West
6628-27955	286048	GW 1	Backfilled													1836 m	South
6628-14568	61537	GH 65	Abandoned	Investigation	1983-03-30	10.50	71.00									1839 m	South West
6628-27695	284585	BMW 4		Investigation	2015-02-19	17.00										1840 m	North West
6628-18032	162044	NORTHFI ELD 5	Unknown		1957-12-31	4.27	71.90									1841 m	North West
6628-9639	56608							81.55								1855 m	South East
6628-22274	206486	MW 13		Monitoring	2005-08-09	19.50		40.21					17.50	17.50	22.71	1863 m	North West
6628-6931	53900			Observation	1966-01-01		30.00		7.85	2172	3345					1868 m	North West
6628-14574	61543	GH 71	Abandoned	Investigation	1984-02-17	8.20	64.00									1894 m	West
6628-27697	284587	BMW 2			2015-02-17	26.00										1897 m	North West
6628-9618	56587	SA DEPT OF MINES	Backfilled		1950-06-08	27.28		76.99								1914 m	South
6628-19236	172401	MW 2	Backfilled	Monitoring	1998-07-07	6.00		30.91								1943 m	North West
6628-19235	172400	MW 1	Backfilled	Monitoring	1998-07-07	10.00		30.06								1947 m	North West
6628-30057	315628			Environmental	2019-03-11	40.50										1948 m	West
6628-19239	172404	H 15	Backfilled		1998-08-25	14.40		77.48								1952 m	South
6628-30058	315629			Environmental	2019-02-13	32.25										1953 m	West
6628-20816	190033	MW 15		Investigation	2001-07-02	26.00		99.23					18.50	18.50	80.73	1997 m	East

Drillholes Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Geology 1:100,000

700 Grand Junction Road, Oakden, SA 5086



Geology

700 Grand Junction Road, Oakden, SA 5086

Surface Geology 1:100,000

Surface Geology Units within the dataset buffer:

Map Unit Code	Name	Description	Parent Name	Province	Age	Min Age	Max Age	Dist	Dir
Qpap	Pooraka Formation	Clay, sand and carbonate earth, silty, with gravel lenses.	Unnamed GIS Unit - see description	ST VINCENT BASIN	PLEISTOCENE	Pleistocene, Late	Pleistocene, Late	0m	On-site
Qp\ca	Unnamed GIS Unit - see description	Undifferentiated Pleistocene calcrete.	Unnamed GIS Unit - see description	UNKNOWN	PLEISTOCENE	Pleistocene	Pleistocene	105m	South West
Nds	Saddleworth Formation	Mudstone; siltstone; shale, partly carbonaceous.	Bungarider Subgroup	ADELAIDE GEOSYNCLINE	NEOPROTEROZOIC	Torrensian	Torrensian	263m	North
Qpas	Keswick Clay	Clay, smectite-rich, grey-green, with red or yellow mottling and rare sand lenses.	Unnamed GIS Unit - see description	ST VINCENT BASIN	PLEISTOCENE	Pleistocene	Pleistocene	374m	South East
Nds1	Unnamed GIS Unit - see description	Sandstone, fine to medium-grained . BURRA 2nd edition - preliminary unit for compilation.	Saddleworth Formation	ADELAIDE GEOSYNCLINE	NEOPROTEROZOIC	Torrensian	Torrensian	544m	North

Geology Data Source: Dept of Environment, Water and Natural Resources - South Australia

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Linear Structures 1:100,000

Linear geological structures within the dataset buffer:

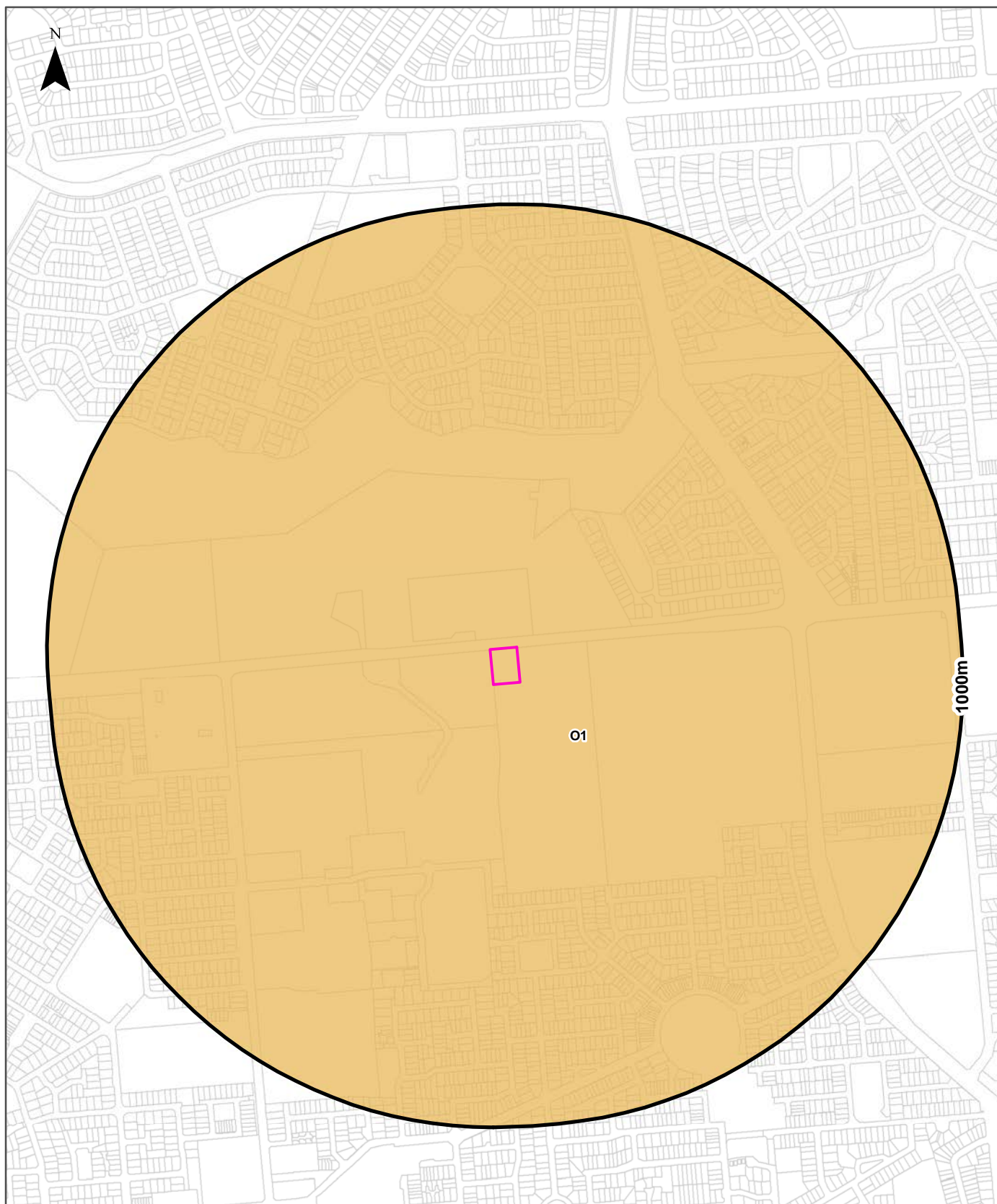
Map Code	Description	Distance	Direction
N/A	No records in buffer		

Geology Data Source: Dept of Environment, Water and Natural Resources - South Australia

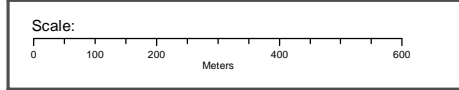
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Atlas of Australian Soils

700 Grand Junction Road, Oakden, SA 5086



Legend		Australian Soil Classification Orders					
Site Boundary	Anthroposol	Dermosol	Kandosol	Podosol	Tenosol	No Data	
Buffer 1000m	Calcarosol	Ferrosol	Kurosol	Rudosol	Vertosol		
Property Boundary	Chromosol	Hydrosol	Organosol	Sodosol	Lake		



Data Sources: Property Boundaries - Sourced by Omnilink PTY LTD. ©PSMA Australia Limited
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Coordinate System:
GDA 1994 MGA Zone 54

Date: 10 February 2023

Soils

700 Grand Junction Road, Oakden, SA 5086

Atlas of Australian Soils

Soil mapping units and Australian Soil Classification orders within the dataset buffer:

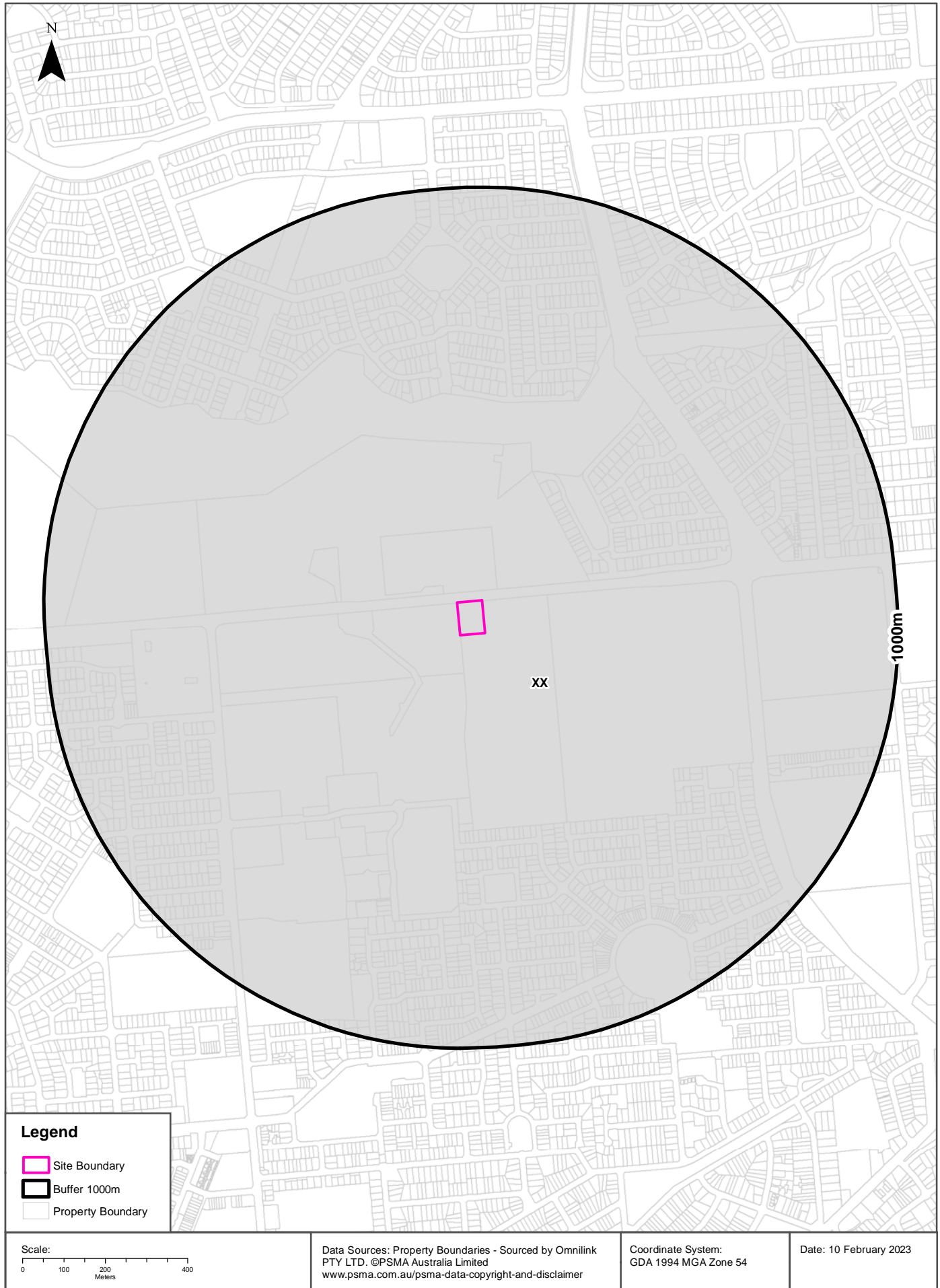
Map Unit Code	Soil Order	Map Unit Description	Distance	Direction
O1	Chromosol	Outwash plains: hard alkaline red soils (Dr2.23 with small areas Dr2.33); small areas cracking clay soils (Ug5.15, Ug5.16, and Ug5.2), also hard alkaline yellow mottled soils (Dy3.43); minor areas (Um6.21) and (Uf6.11); various alluvial soils (unclassified) in the stream valleys.	0m	On-site

Atlas of Australian Soils Data Source: CSIRO

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Soil Types

700 Grand Junction Road, Oakden, SA 5086



Soils

700 Grand Junction Road, Oakden, SA 5086

Soil Types

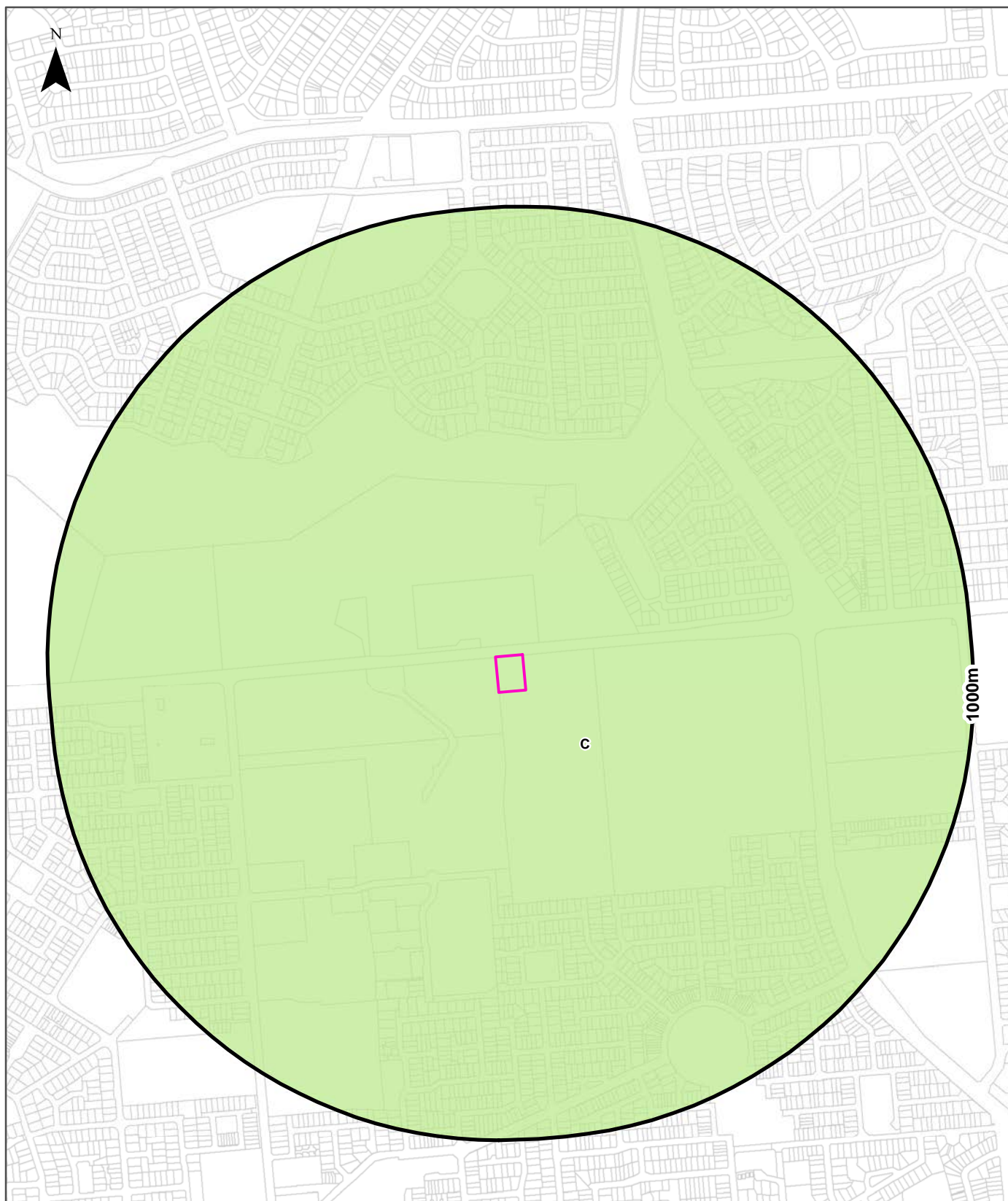
Soil types within the dataset buffer:

Map category code	Soil type description	Distance	Direction
XX	Not applicable - No assessment/analysis undertaken	0m	On-site

Soil Types Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Atlas of Australian Acid Sulfate Soils

700 Grand Junction Road, Oakden, SA 5086



Legend

Site Boundary

Buffer 1000m

Property Boundary

Probability of occurrence of Acid Sulfate Soils

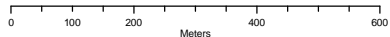
A. High (>70%)

B. Low (6-70%)

C. Extremely Low (1-5%)

D. No Chance (0%)

Scale:



Data Sources: Property Boundaries - Sourced by Omnilink
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Coordinate System:
GDA 1994 MGA Zone 54

Date: 10 February 2023

Acid Sulfate Soils

700 Grand Junction Road, Oakden, SA 5086

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

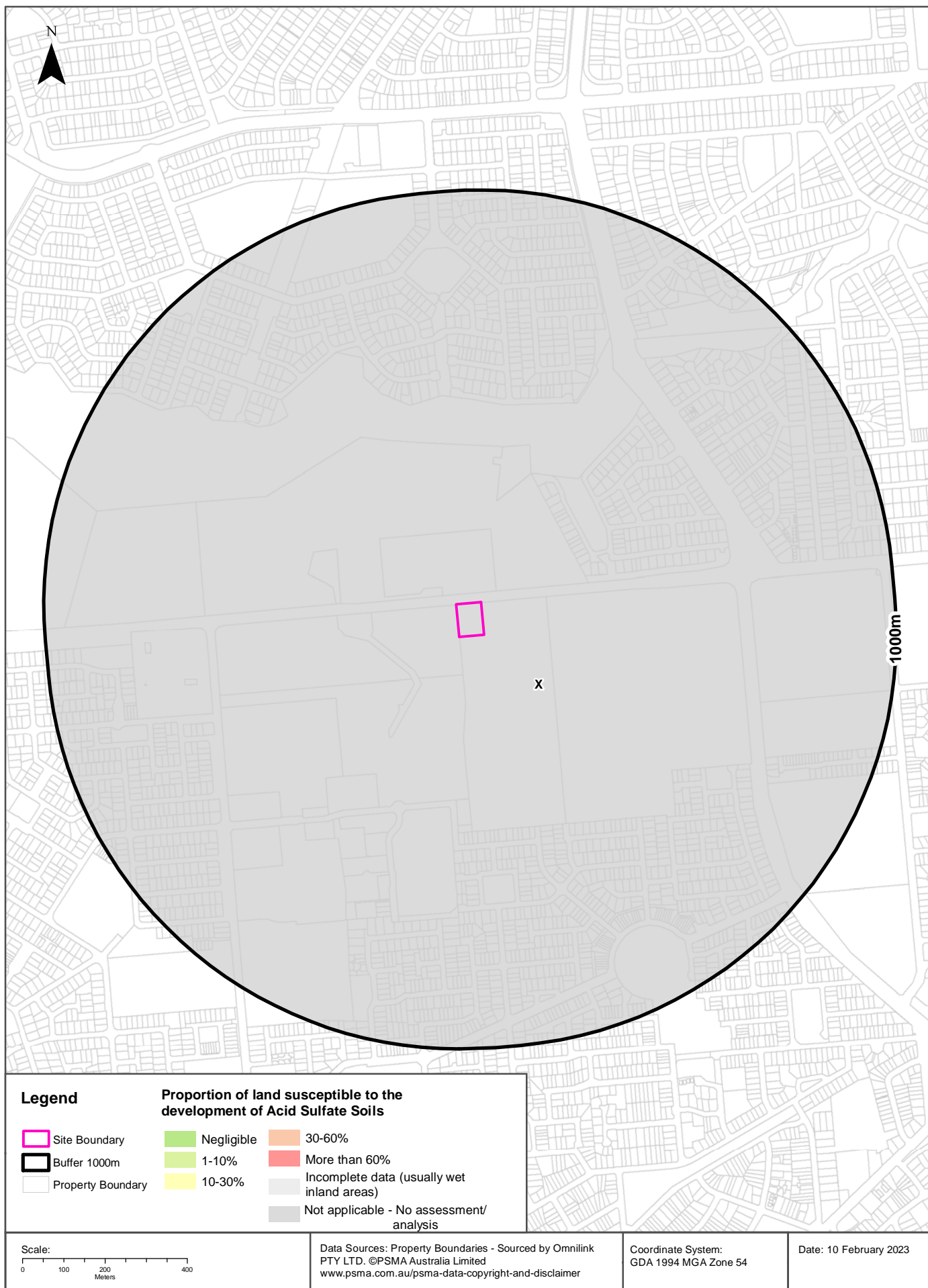
Class	Description	Distance	Direction
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m	On-site

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Acid Sulfate Soils Potential

700 Grand Junction Road, Oakden, SA 5086



Acid Sulfate Soils

700 Grand Junction Road, Oakden, SA 5086

Acid Sulfate Soil Potential

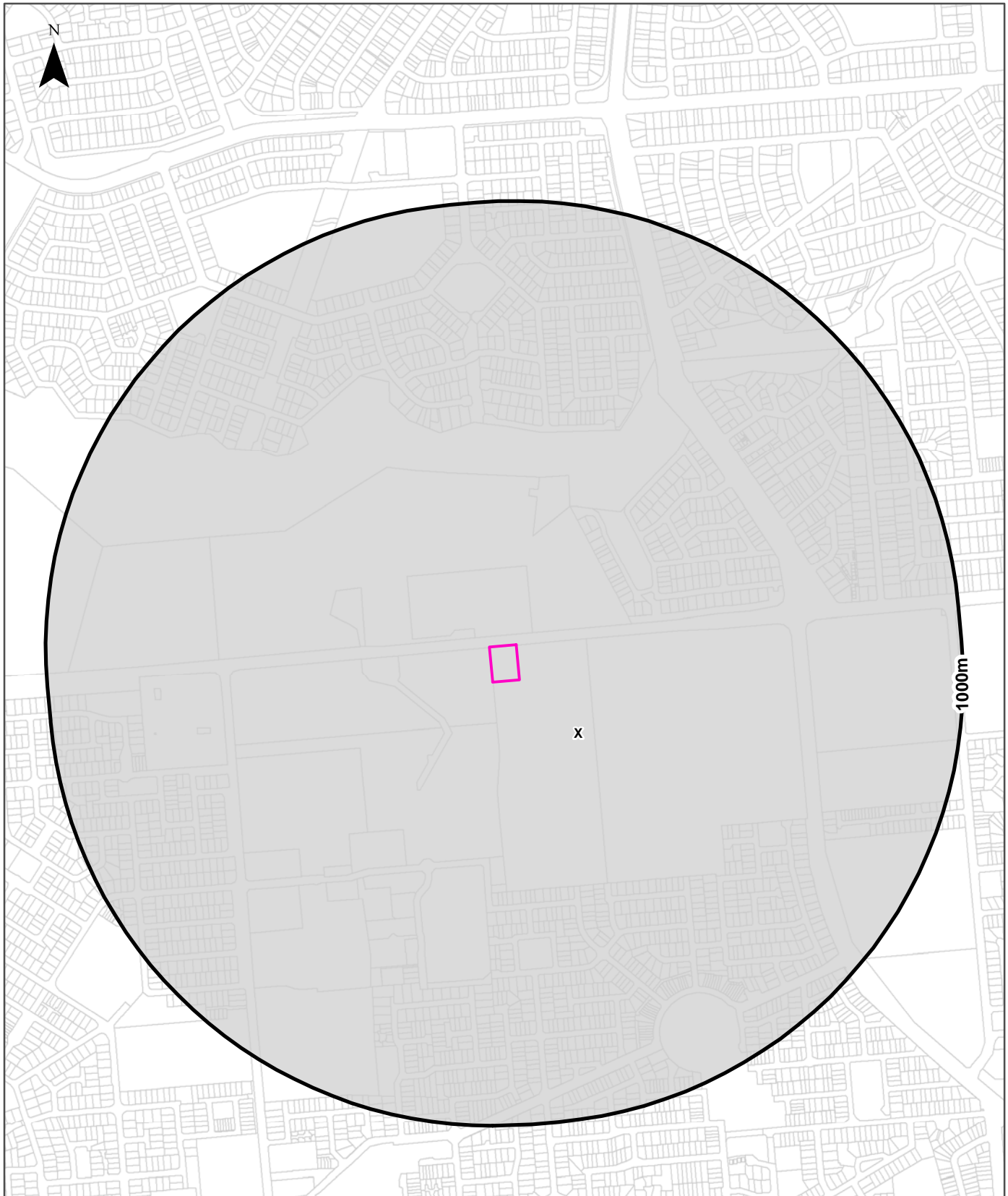
Acid sulfate soil potential within the dataset buffer:

Map category code	Proportion of land susceptible to the development of acid sulfate soils	Distance	Direction
X	Not applicable - No assessment/analysis undertaken	0m	On-site

Acid Sulfate Soils Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Soil Salinity - Watertable Induced

700 Grand Junction Road, Oakden, SA 5086



Legend		Severity of watertable induced soil salinity					
	Site Boundary		A. Negligible		D. Moderately high		G. Very high to extreme
	Buffer 1000m		B. Moderately low		E. Moderately high to high		X. Not applicable
	Property Boundary		C. Moderate		F. High		



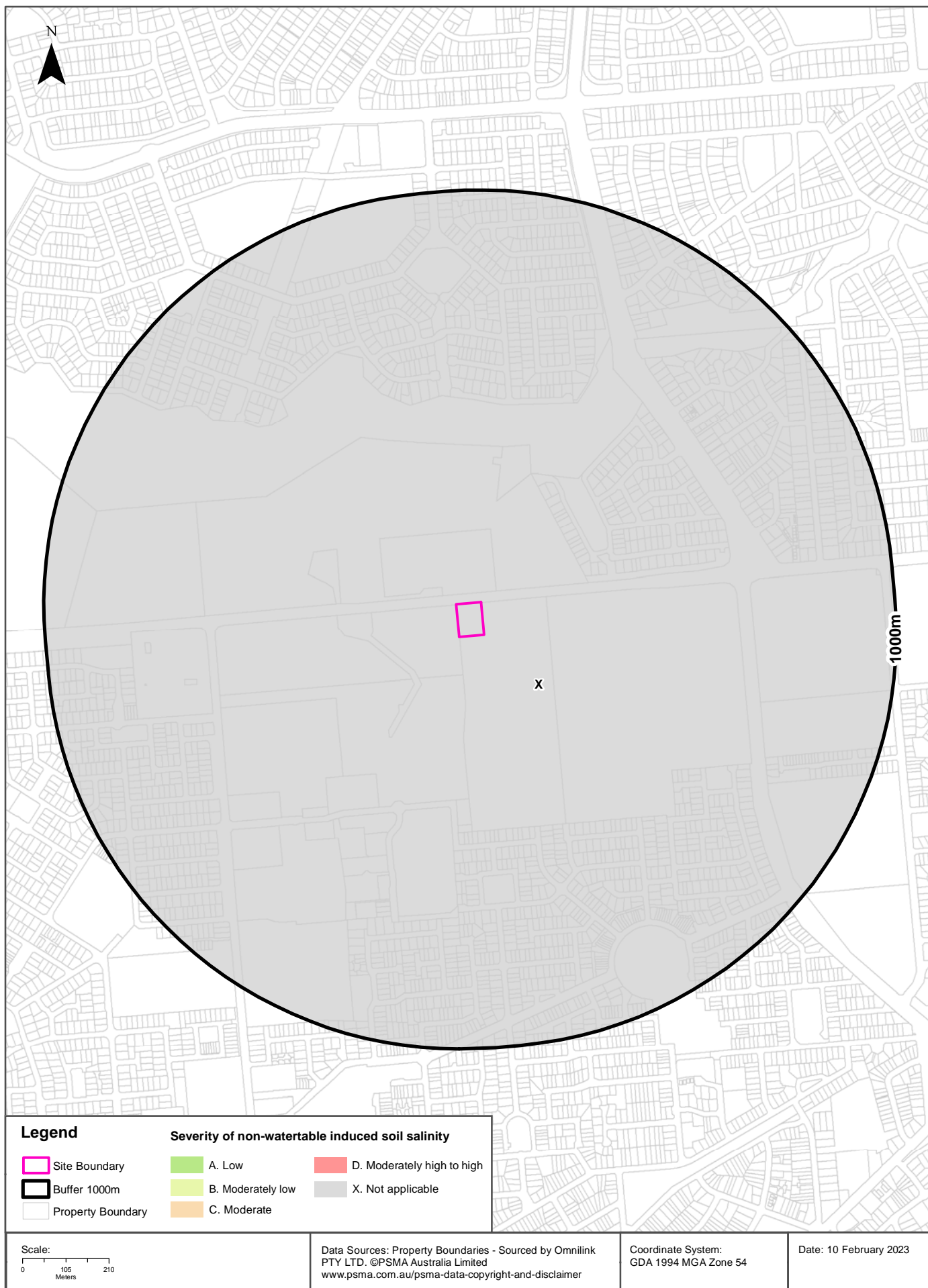
Data Sources: Property Boundaries - Sourced by Omnilink PTY LTD. ©PSMA Australia Limited
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Coordinate System:
 GDA 1994 MGA Zone 54

Date: 10 February 2023

Soil Salinity - Non-watertable

700 Grand Junction Road, Oakden, SA 5086



Soil Salinity

700 Grand Junction Road, Oakden, SA 5086

Soil Salinity - Watertable Induced

Watertable induced soil salinity within the dataset buffer:

Map category code	Severity description	Distance	Direction
X	Not applicable - No assessment/analysis undertaken	0m	On-site

Salinity Watertable Induced Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Soil Salinity - Non-Watertable

Non-watertable soil salinity within the dataset buffer:

Map category code	Severity description	Surface ECe (dS/m)	Subsoil ECe (dS/m)	Distance	Direction
X	Not applicable - No assessment/analysis undertaken			0m	On-site

Salinity Non-Watertable Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Soil Salinity - Non-Watertable (Magnesia Patches)

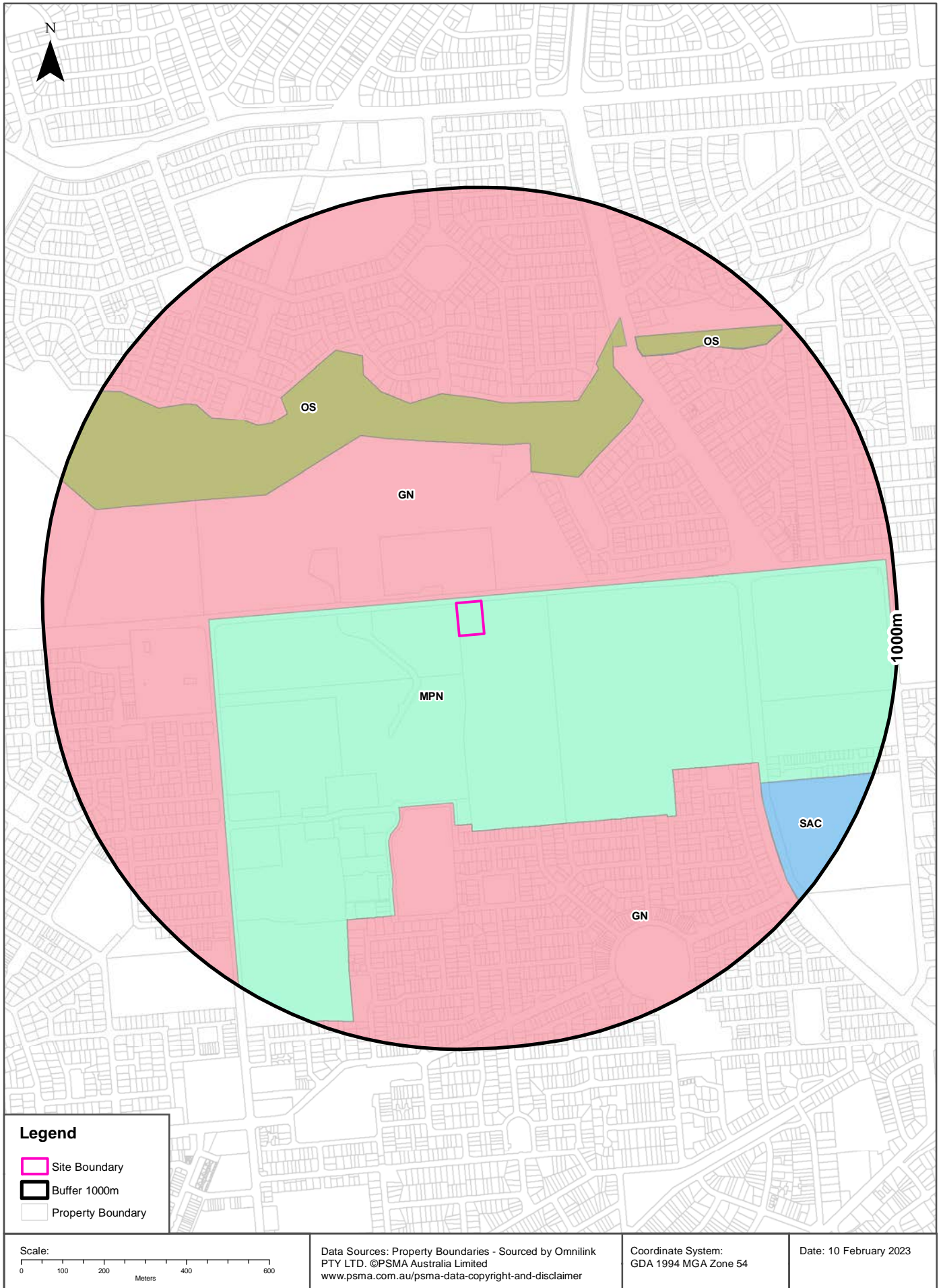
Magnesia patches within the dataset buffer:

Map category code	Proportion of land affected by magnesia patches	Distance	Direction
X	Not applicable - No assessment/analysis undertaken	0m	On-site

Salinity Non-Watertable (Magnesia Patches) Data Source: Dept of Environment, Water and Natural Resources - South Australia
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Planning and Design Code Zones

700 Grand Junction Road, Oakden, SA 5086



Planning

700 Grand Junction Road, Oakden, SA 5086

Planning and Design Code - Zones

Planning and Design Code zones within the dataset buffer:

Map Id	Zone Code	Zone Name	Legal Start Date	Status	Distance	Direction
MPN	Z3903	Master Planned Neighbourhood	19/03/2021	0	0m	On-site
GN	Z2102	General Neighbourhood	19/03/2021	0	13m	North
OS	Z4501	Open Space	19/03/2021	0	335m	North West
OS	Z4501	Open Space	19/03/2021	0	709m	North East
SAC	Z5705	Suburban Activity Centre	19/03/2021	0	759m	South East

Planning and Design Code Zones Data Source: Attorney-General's Department - South Australia
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Planning and Design Code - Subzones

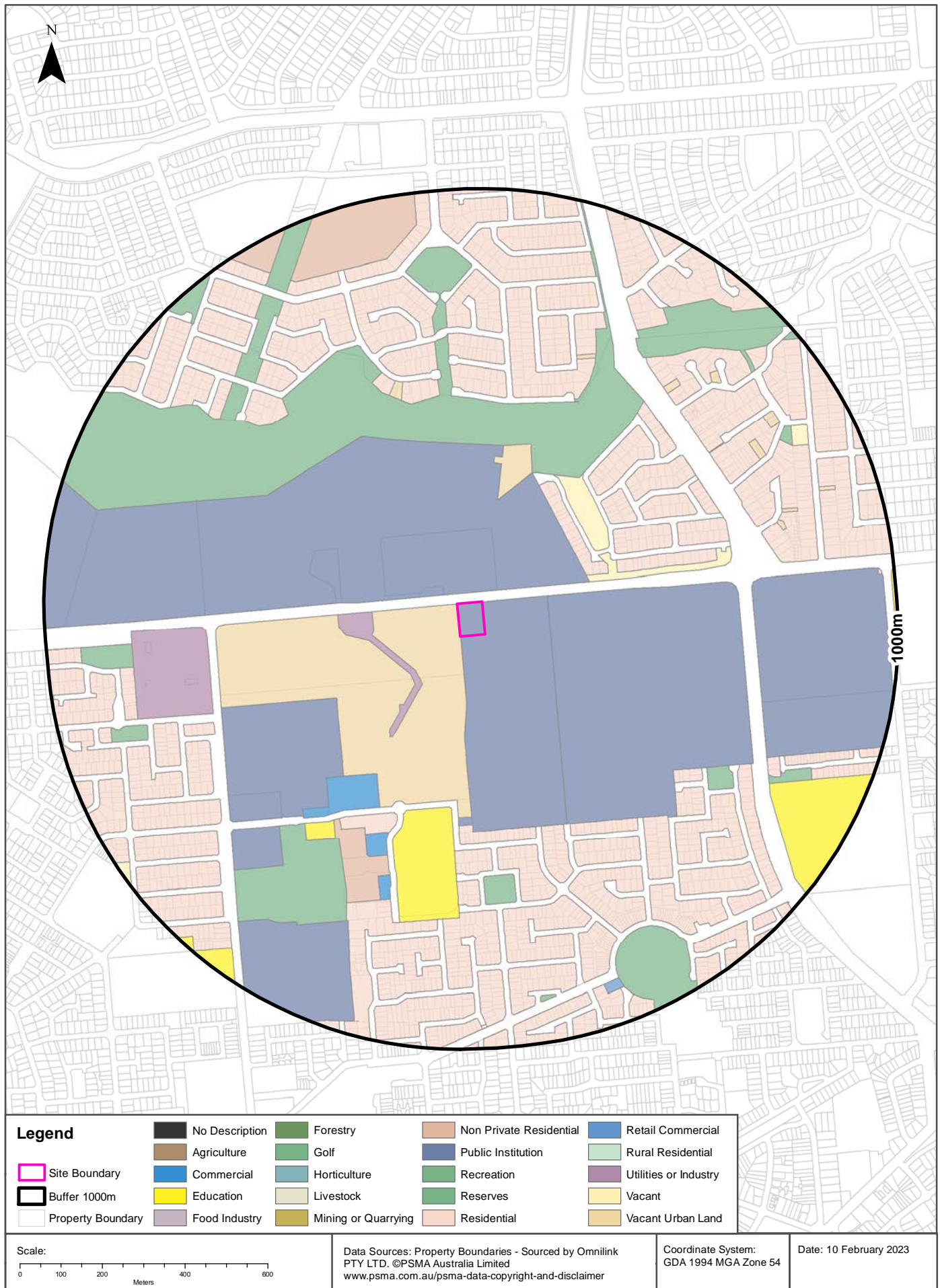
Planning and Design Code subzones within the dataset buffer:

Map Id	Subzone Code	Subzone Name	Legal Start Date	Status	Distance	Direction
N/A	No records in buffer					

Planning and Design Code Subzones Data Source: Attorney-General's Department - South Australia
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Land Use Generalised

700 Grand Junction Road, Oakden, SA 5086



Planning

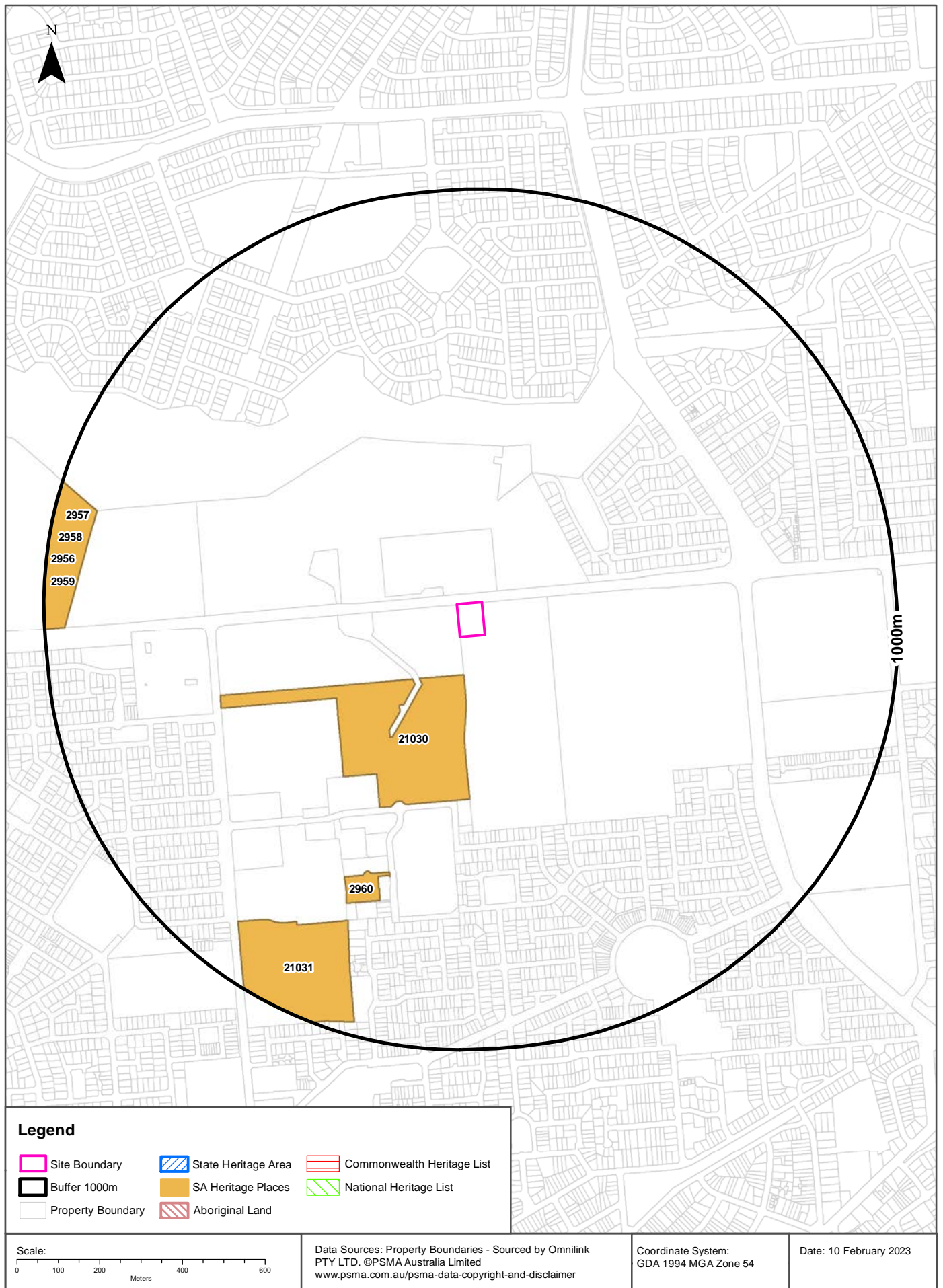
700 Grand Junction Road, Oakden, SA 5086

Land Use Generalised

Land use classes within the dataset buffer:

Description	Distance	Direction
Public Institution	0m	On-site
Vacant Urban Land	0m	South West
Utilities or Industry	137m	West
Residential	252m	North East
Vacant	259m	East
Reserves	335m	North West
Commercial	389m	South West
Education	412m	South
Non Private Residential	517m	South West
Recreation	570m	South West
Retail Commercial	892m	South

Land Use Generalised Data Source: Dept of Planning, Transport and Infrastructure - South Australia
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Heritage

700 Grand Junction Road, Oakden, SA 5086

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/3.0/au/deed.en>

National Heritage List

What are the National Heritage List Items located within the dataset buffer?

Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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State Heritage Areas

State Heritage Areas within the dataset buffer:

Heritage Id	Name	Distance	Direction
N/A	No records in buffer		

Heritage Areas Data Source: Dept of Environment, Water and Natural Resources - South Australia
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SA Heritage Places

SA Heritage Places within the dataset buffer:

Heritage No	Location	Heritage Class	Australian Class	Details	Auth Date	Distance	Direction
21030	Hilltop Drive OAKDEN	State	Crematorium	Hillcrest Hospital (former Northfield Mental Hospital) - former Mortuary		92m	South West
2960	18 Heritage Court OAKDEN	State	Hospital	Hillcrest Hospital (former Northfield Mental Hospital) - former Administration Building ['Stanley House']		594m	South
21031	Fosters Road OAKDEN	State	House	Hillcrest Hospital (former Northfield Mental Hospital) - former Superintendent's House		738m	South West
2956	Grand Junction Road NORTHFIELD	State	Business House - Offices	Administration Building, Yatala Labour Prison		902m	West
2957	Grand Junction Road NORTHFIELD	State	Hostel - Guest house - Boarding House - Lodge	Former A Division Guards Quarters, Yatala Labour Prison		902m	West
2958	Grand Junction Road NORTHFIELD	State	Historic Sites (unclassified)	B Division Cell Block, Yatala Labour Prison		902m	West
2959	Grand Junction Road NORTHFIELD	State	Fence/Wall	Stone Walls, Yatala Labour Prison		902m	West

Heritage Places Data Source: Dept of Environment, Water and Natural Resources - South Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Aboriginal Land

Aboriginal Land within the dataset buffer:

Map Id	Grant Date	Address	Locality	Description	Title	Distance	Direction
N/A	No records in buffer						

Aboriginal Land Data Source: Department of State Development, Resources and Energy - South Australia

Natural Hazards

700 Grand Junction Road, Oakden, SA 5086

Bushfire Overlays

Bushfire Overlays from the Planning and Design Code within the dataset buffer:

Overlay Id	Name	Description	Legal Start Date	Legal End Date	Distance	Direction
N/A	No records in buffer					

Bushfire Overlays Data Source: Attorney-General's Department - South Australia
Creative Commons 4.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0/au/deed.en>

Bushfires and Prescribed Burns History

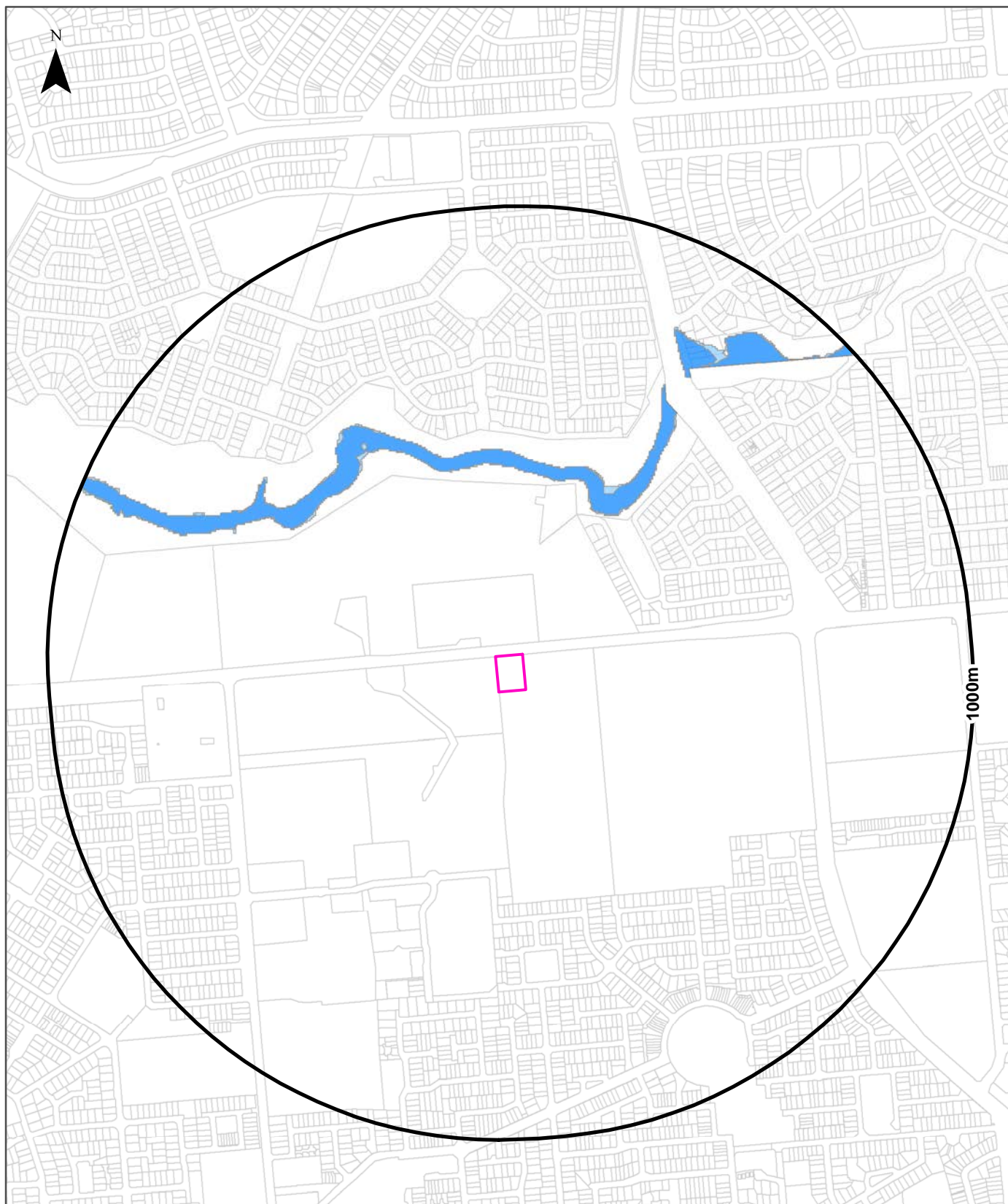
Bushfires and prescribed burns within the dataset buffer:

Map Id	Incident No.	Incident Name	Incident Type	Date of Fire	Area of Fire (ha)	Distance	Direction
N/A	No records in buffer						

Bushfires and Prescribed Burns History Data Source: Dept of Environment, Water and Natural Resources - South Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

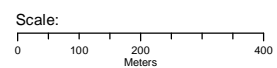
Natural Hazards - Flood

700 Grand Junction Road, Oakden, SA 5086



Legend

- | | | |
|-------------------|------------------------------|-------------------------------------|
| Site Boundary | Flooding | Coastal Flooding |
| Buffer 1000m | Flooding - General | River Murray Flood Plain Protection |
| Property Boundary | Flooding - Evidence Required | |



Data Sources: Property Boundaries - Sourced by Omnilink PTY LTD. ©PSMA Australia Limited
www.psm.com.au/psma-data-copyright-and-disclaimer

Coordinate System:
GDA 1994 MGA Zone 54

Date: 10 February 2023

Natural Hazards

700 Grand Junction Road, Oakden, SA 5086

Flooding Overlays

Flooding Overlays from the Planning and Design Code within the dataset buffer:

Overlay Id	Name	Description	Legal Start	Legal End	Distance	Direction
O2414	Hazards (Flooding - General)	The Hazards (Flooding - General) Overlay seeks to minimise impacts of general flood risk through appropriate siting and design of development.	10/11/2022		354m	North East
O2403	Hazards (Flooding)	The Hazards (Flooding) Overlay seeks to minimise flood hazard risk to people, property, infrastructure and the environment.	10/11/2022		356m	North West

Flooding Overlays Data Source: Attorney-General's Department - South Australia
Creative Commons 4.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0/au/deed.en>

Ecological Constraints

700 Grand Junction Road, Oakden, SA 5086

Groundwater Dependent Ecosystems Atlas

Type	Name	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
N/A	No records in buffer						

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints

700 Grand Junction Road, Oakden, SA 5086

Inflow Dependent Ecosystems Likelihood

Type	Name	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
N/A	No records in buffer						

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Ecological Constraints

700 Grand Junction Road, Oakden, SA 5086

Ramsar Wetlands

What Ramsar wetland areas exist within the dataset buffer?

Wetland	Distance	Direction
No records in buffer		

Ramsar Wetlands Data Source: Dept of Environment, Water and Natural Resources - South Australia
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

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Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading "LC" or "LocConf". These codes lookup to the following location confidences:

LC Code	Location Confidence
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced to an approximate or general area
Road Match	Georeferenced to a road or rail corridor
Road Intersection	Georeferenced to a road intersection
Buffered Point	A point feature buffered to x metres
Adjacent Match	Land adjacent to a georeferenced feature
Network of Features	Georeferenced to a network of features
Suburb Match	Georeferenced to a suburb boundary
As Supplied	Spatial data supplied by provider

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Appendix C

Certificates of title and SAPPA information

This Crown Record Register Search is a true and correct extract of the Register of Crown Records maintained by the Registrar-General. Crown Land is administered pursuant to the Crown Land Management Act 2009 by the Department for Environment and Water.

Crown Record - Volume 5759 Folio 678

Parent Title(s)

Creating Dealing(s) RT 8862539

Title Issued 19/04/2000 Edition 1 Edition Issued 19/04/2000

Estate Type

CROWN LAND (ALIENATED)

Owner

THE CROWN

Custodian

SOUTH AUSTRALIAN METROPOLITAN FIRE SERVICE
OF 87 WAKEFIELD ST ADELAIDE SA 5000

Description of Land

SECTION 1655
HUNDRED OF YATALA
IN THE AREA NAMED OAKDEN

TOTAL AREA: 4800M² (CALCULATED)

Easements

NIL

Schedule of Dealings

NIL

Schedule of Interests

LAND DEDICATED FOR FIRE STATION PURPOSES PURSUANT TO THE CROWN LANDS ACT, 1929 BY GAZETTE
27/11/1986

Notations

Dealings Affecting Title NIL

Priority Notices NIL

Registrar-General's Notes NIL

Administrative Interests NIL

Crown Record

Title Reference: CR 5759/678

Status: CURRENT

Parent Title(s):

Dealing(s) Creating Title: RT 8862539

Title Issued: 19/04/2000

Edition: 1

Dealings

No lodged Dealings found.

SAPPA Parcel Report

Date Created: February 8, 2023

The South Australian Property and Planning Atlas is available at the Plan SA website <https://sappa.plan.sa.gov.au/>



Address Details

Scale \approx 1:2257 (on A4 page)

Unit Number:

100 metres \approx

Street Number:

Street Name: GRAND JUNCTION

Street Type: RD

Suburb: OAKDEN

Postcode: 5086

Property Details:

Council: CITY OF PORT ADELAIDE ENFIELD

State Electorate: TORRENS (2014), TORRENS (2018), TORRENS (2022)

Federal Electorate: STURT (2013), STURT (2016), STURT (2019)

Hundred: YATALA

Valuation Number: 0607333004

The information provided, is not represented to be accurate, current or complete at the time of printing this report.

The Government of South Australia accepts no liability for the use of this data, or any reliance placed on it.

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Title Reference: CR5759/678
Plan No. Parcel No.: H106100S1655
Zoning details next page



Government of South Australia
Attorney-General's Department

Zone Details

Zones

Master Planned Neighbourhood (Z3903) - MPN

Overlays

Airport Building Heights (Regulated) (O0303) - All structures over 15 metres

The Airport Building Heights (Regulated) Overlay seeks to ensure building height does not pose a hazard to the operation and safety requirements of commercial and military airfields.

Advertising Near Signalised Intersections (O0305)

The Advertising Near Signalised Intersections Overlay seeks to ensure advertising near signalised intersections does not pose an unacceptable risk to pedestrian or road safety.

Affordable Housing (O0306)

The Affordable Housing Overlay seeks to ensure the integration of a range of affordable dwelling types into residential and mixed use development.

Building Near Airfields (O0601)

The Building Near Airfields Overlay seeks to ensure development does not pose a hazard to the operational and safety requirements of commercial and military airfields.

Major Urban Transport Routes (O3907)

The Major Urban Transport Routes Overlay seeks to ensure safe and efficient vehicle movement and access along major urban transport routes.

Prescribed Wells Area (O4804)

The Prescribed Wells Area Overlay seeks to ensure sustainable water use in prescribed wells areas.

Regulated and Significant Tree (O5404)

The Regulated and Significant Tree Overlay seeks to mitigate the loss of regulated trees through appropriate development and redevelopment.

Traffic Generating Development (O6001)

The Traffic Generating Development Overlay aims to ensure safe and efficient vehicle movement and access along urban transport routes and major urban transport routes.

Appendix D

Photographic log

MFS Oakden



Photo 1 View of station from NW corner of building from Grand Junction Rd, facing south. Irrigation visible



Photo 2 Truck wash bay from rear, facing north



Photo 3 Storage sheds, facing south-east



Photo 4 View of training area and hydrant, facing west



Photo 5 On site oil separator



Photo 6 Former dam / fire water pump tank – backfilled and covered with concrete, facing north-east



Photo 7 View of training area from washdown bay, facing south



Photo 8 View of training area, facing east



Photo 9 View of training area with stormwater pit/ drain and training tower, facing south-east



Photo 10 View of driveway with stormwater pit/ drain, decommissioned fuel pump and the former dam, facing south



Photo 11 View of decommissioned 15,000 L diesel underground storage tank, facing east



Photo 12 View of stormwater pit/ drain at site boundary on Grand Junction Road, facing north



Photo 13 Photo of former dam prior to backfill and decommission (2018)

Appendix E

MFS staff surveys (AFFF historical use questionnaires)

MFS Station – AFFF Historical Use Questionnaire

Please distribute the following questionnaire to nominated MFS personnel who have worked at MFS sites when active use of AFFF (*aqueous film-forming foam, firefighting foam*) occurred before it was phased out in 2016. When applicable, please annotate key site features on the site plans attached at the end of this questionnaire.

MFS Station:

Name:

Position when working at the site:

Phone number:

Email:

Date of response:

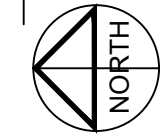
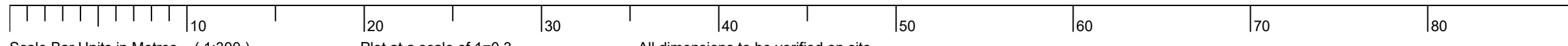
Item	Question	Response
1	<i>When did you start working at this station?</i>	
2	<i>How long have you worked at this station?</i>	
3	<i>Can you describe where stormwater from the site is usually discharged to (e.g. stormwater pit, nearby creek / pond, street gutter)?</i>	
4	<i>Can you describe any changes in how stormwater has been managed at the site over time?</i>	
5	<i>Is stormwater harvested within the site?</i>	
5.1	<i>If yes, please describe where and how stormwater is harvested.</i>	
5.2	<i>For what purposes is stormwater harvested?</i>	
6	<i>Are there groundwater wells / bores at the site?</i>	
6.1	<i>If yes, for what purpose is groundwater used at the site?</i>	

Item	Question	Response
6.2	<i>Where are the groundwater well / bores located on site? Please mark the location on the attached site plan.</i>	
7	<i>Date when AFFF was first used on site?</i>	
8	<i>Can you provide the product names of any AFFF used on the site? (e.g. Ansulite, 3M Light Water)</i>	
9	<i>Was AFFF used in regular training exercises? If so:</i>	
9.1	<i>How often was the training? (e.g. weekly, monthly, quarterly)</i>	
9.2	<i>Can you describe the location of the training areas and annotate them on the site plan?</i>	
9.3	<i>Can provide an estimate of how much AFFF was used in each training?</i>	
9.4	<i>Was the training ground sealed / open?</i>	
9.5	<i>Was AFFF dispersed aerially? If so, please indicate the maximum extent on the site plan?</i>	
9.6	<i>When was the date of the last training event that included the use of AFFF?</i>	
10	<i>Please describe how the waste water was managed following training events? Specifically, was there a recycling system, storage pond, storage tanks or drains? Please annotate waste water discharge point / pathways on the site plan.</i>	
11	<i>Did any waste water flow into drains that directed the waste water off-site? Please annotate the waste water discharge points / pathways on the site plan.</i>	
12	<i>Were there any changes how the waste water was managed over time? If so, please describe the changes.</i>	
13	<i>Is there any inventory of AFFF use for the site?</i>	

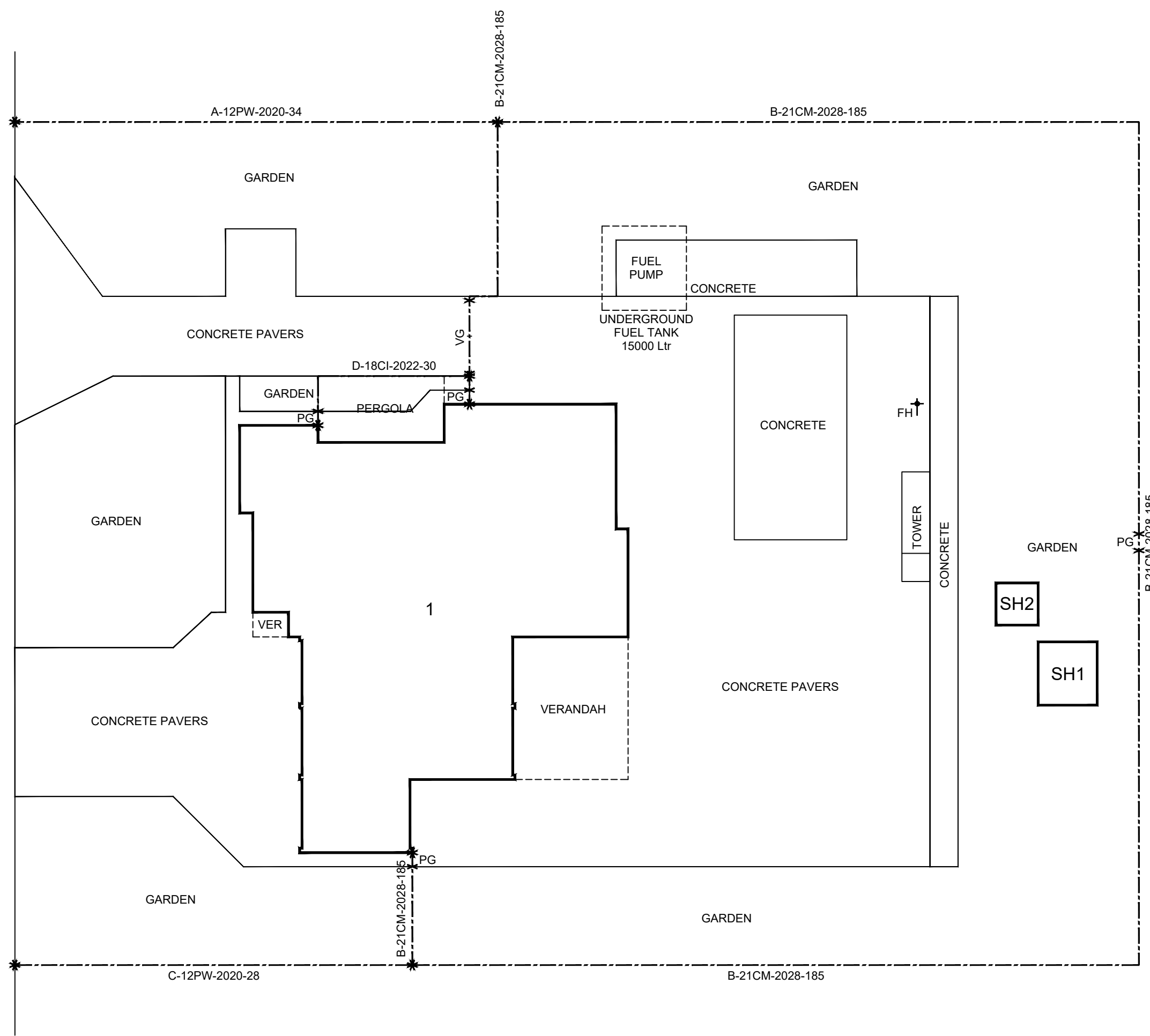
Item	Question	Response
14	<i>Can you estimate the total volume of AFFF used on site before it was phased out in 2016?</i>	
15	<i>Where was AFFF stored on site? Please annotate the storage location on the site plan.</i>	
15.1	<i>What type and size of storage containers were used to store AFFF on site?</i>	
15.2	<i>What is the number of storage containers or the total volume of AFFF that was typically stored on site at any given time prior to 2016?</i>	
16	<i>Please describe where and how AFFF was transferred from storage containers to the fire trucks / fire-fighting appliances. What equipment was used to transfer the AFFF?</i>	
17	<i>How were spent drums of AFFF disposed of?</i>	
18	<i>Were there any wash down areas for fire trucks, equipment or AFFF containers? If so:</i>	
18.1	<i>How was the waste water from such areas managed? (e.g. recycling, treatment, storage pond or discharge to drains)</i>	
18.2	<i>Were there any changes how the waste water was managed over? If so, please describe the changes.</i>	
19	<i>Please describe / annotate the specific location(s) of any other chemical storage facilities (including fuel and oil) and describe the type and typical use of those chemicals.</i>	
20	<i>Is there an incident log / register for the site?</i>	

Item	Question	Response
21	<i>Are you aware of any AFFF (or other chemical) releases that may have occurred outside of typical application scenarios? If so:</i>	
21.1	<i>When did such release(s) happen?</i>	
21.2	<i>What substance(s) was/were released?</i>	
21.3	<i>Where did such release(s) happen? Please annotate the release point(s) on the site plan.</i>	
21.4	<i>Where was the released AFFF or chemical discharged to? Please annotate the discharge point(s) on the site plan.</i>	
22	<i>Are there areas of the site where training activities and / or AFFF release(s) have historically occurred that are now unused or have been built on?</i>	
23	<i>Have there been any significant bulk earthworks on the Station site that resulted in soil being relocated from one area to another?</i>	
24	<i>Please describe any changes to the Station that you are aware of with respect to the storage and use of AFFF.</i>	

Any other comments or notes.



GRAND JUNCTION ROAD

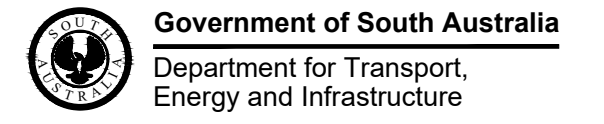


BUILDINGS

- 1 FIRE STATION
- SH1 GALV. IRON STORE SHED
- SH2 GALV. IRON STORE SHED

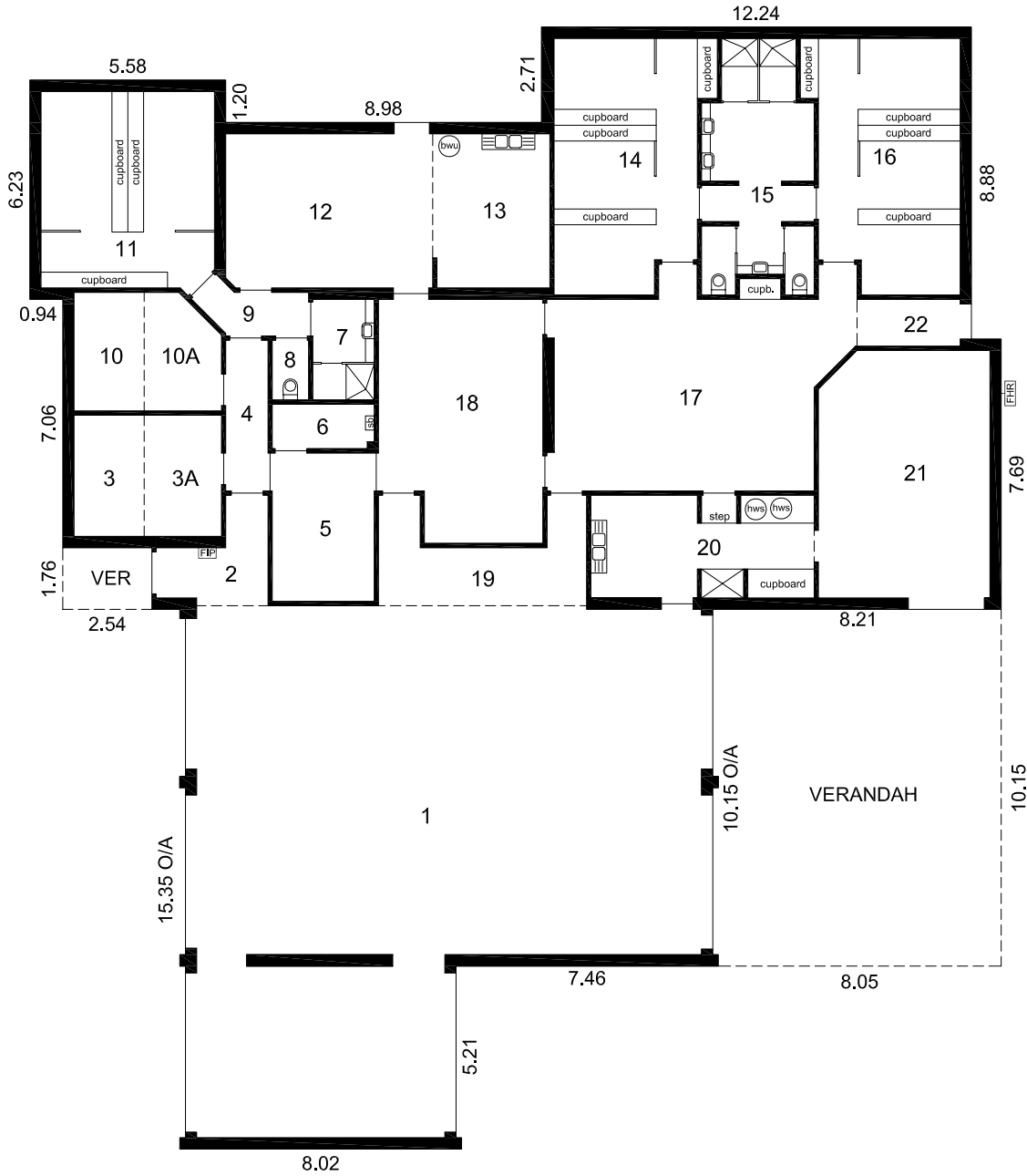
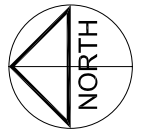
FENCES		code-height-type-fail date-length (ms)	
CI	corrugated iron	PI	profiled iron
CM	chain mesh	WM	weld mesh
GT	galtube	NF	not fenced
PG	pedestrian gate	VG	vehicle gate
WM	Water Meter	*	Fence junction
GM	Gas Meter	PMT	Pad mtd trans

OAKDEN SAMFS FIRE STATION GRAND JUNCTION ROAD GILLES PLAINS 5086



Asset no.	09164	Client.	ODEPT
DTEI Office.	ADELAIDE	Sheet.	1 of 1
Created by.	Archink	C Kneebone	May 2010
Modified by.	aTAM	K Tydeman	May 2019
Audited by.	Archink	A Bentley	May 2010
Title details.	refer layer " site-allotment " RT 8862539		
Site area.	0.4800 ha	Accuracy.	site survey
Strategic Asset Management Information System Plan			

SAMIS 09164



Asset Name	OAKDEN SAMFS				
Building Use	FIRE STATION				
Created by.	Archink	Drawn	C Kneebone	Date	May 2010
Modified by.	Archink	Drawn	A Bentley	Date	May 2010
Bldg area m ²	597	Ver area m ²	88	Plan ref.	-

Government of South Australia
Department for Transport,
Energy and Infrastructure

Strategic Asset Management Information System Plan

SAMIS 09164-01-1

MFS Station – AFFF Historical Use Questionnaire

Please distribute the following questionnaire to nominated MFS personnel who have worked at MFS sites when active use of AFFF (*aqueous film-forming foam, firefighting foam*) occurred before it was phased out in 2016. When applicable, please annotate key site features on the site plans attached at the end of this questionnaire.

MFS Station:

Name:

Position when working at the site:

Phone number:

Email:

Date of response:

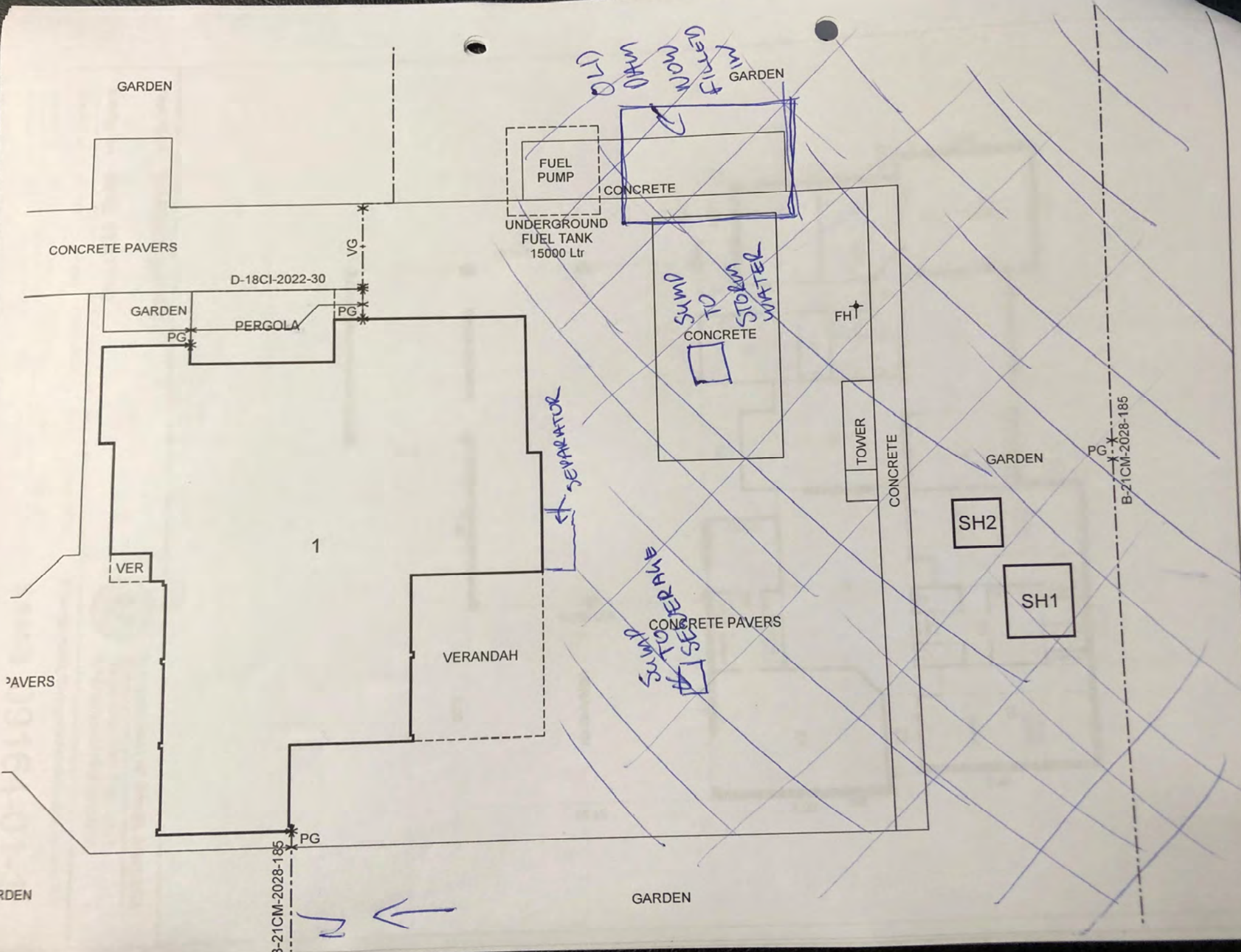
Item	Question	Response
1	<i>When did you start working at this station?</i>	
2	<i>How long have you worked at this station?</i>	
3	<i>Can you describe where stormwater from the site is usually discharged to (e.g. stormwater pit, nearby creek / pond, street gutter)?</i>	
4	<i>Can you describe any changes in how stormwater has been managed at the site over time?</i>	
5	<i>Is stormwater harvested within the site?</i>	
5.1	<i>If yes, please describe where and how stormwater is harvested.</i>	
5.2	<i>For what purposes is stormwater harvested?</i>	
6	<i>Are there groundwater wells / bores at the site?</i>	
6.1	<i>If yes, for what purpose is groundwater used at the site?</i>	

Item	Question	Response
6.2	<i>Where are the groundwater well / bores located on site? Please mark the location on the attached site plan.</i>	
7	<i>Date when AFFF was first used on site?</i>	
8	<i>Can you provide the product names of any AFFF used on the site? (e.g. Ansulite, 3M Light Water)</i>	
9	<i>Was AFFF used in regular training exercises? If so:</i>	
9.1	<i>How often was the training? (e.g. weekly, monthly, quarterly)</i>	
9.2	<i>Can you describe the location of the training areas and annotate them on the site plan?</i>	
9.3	<i>Can provide an estimate of how much AFFF was used in each training?</i>	
9.4	<i>Was the training ground sealed / open?</i>	
9.5	<i>Was AFFF dispersed aerially? If so, please indicate the maximum extent on the site plan?</i>	
9.6	<i>When was the date of the last training event that included the use of AFFF?</i>	
10	<i>Please describe how the waste water was managed following training events? Specifically, was there a recycling system, storage pond, storage tanks or drains? Please annotate waste water discharge point / pathways on the site plan.</i>	
11	<i>Did any waste water flow into drains that directed the waste water off-site? Please annotate the waste water discharge points / pathways on the site plan.</i>	
12	<i>Were there any changes how the waste water was managed over time? If so, please describe the changes.</i>	
13	<i>Is there any inventory of AFFF use for the site?</i>	

Item	Question	Response
14	<i>Can you estimate the total volume of AFFF used on site before it was phased out in 2016?</i>	
15	<i>Where was AFFF stored on site? Please annotate the storage location on the site plan.</i>	
15.1	<i>What type and size of storage containers were used to store AFFF on site?</i>	
15.2	<i>What is the number of storage containers or the total volume of AFFF that was typically stored on site at any given time prior to 2016?</i>	
16	<i>Please describe where and how AFFF was transferred from storage containers to the fire trucks / fire-fighting appliances. What equipment was used to transfer the AFFF?</i>	
17	<i>How were spent drums of AFFF disposed of?</i>	
18	<i>Were there any wash down areas for fire trucks, equipment or AFFF containers? If so:</i>	
18.1	<i>How was the waste water from such areas managed? (e.g. recycling, treatment, storage pond or discharge to drains)</i>	
18.2	<i>Were there any changes how the waste water was managed over? If so, please describe the changes.</i>	
19	<i>Please describe / annotate the specific location(s) of any other chemical storage facilities (including fuel and oil) and describe the type and typical use of those chemicals.</i>	
20	<i>Is there an incident log / register for the site?</i>	

Item	Question	Response
21	<i>Are you aware of any AFFF (or other chemical) releases that may have occurred outside of typical application scenarios? If so:</i>	
21.1	<i>When did such release(s) happen?</i>	
21.2	<i>What substance(s) was/were released?</i>	
21.3	<i>Where did such release(s) happen? Please annotate the release point(s) on the site plan.</i>	
21.4	<i>Where was the released AFFF or chemical discharged to? Please annotate the discharge point(s) on the site plan.</i>	
22	<i>Are there areas of the site where training activities and / or AFFF release(s) have historically occurred that are now unused or have been built on?</i>	
23	<i>Have there been any significant bulk earthworks on the Station site that resulted in soil being relocated from one area to another?</i>	
24	<i>Please describe any changes to the Station that you are aware of with respect to the storage and use of AFFF.</i>	

Any other comments or notes.

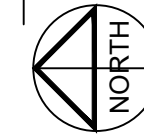


- FENCES
- CI corrug
- CM chain r
- GT galtube
- PG pedest
- ⊖ WM ↓
- GM (

**OAKI
FIRE
GRAI
GILLI**

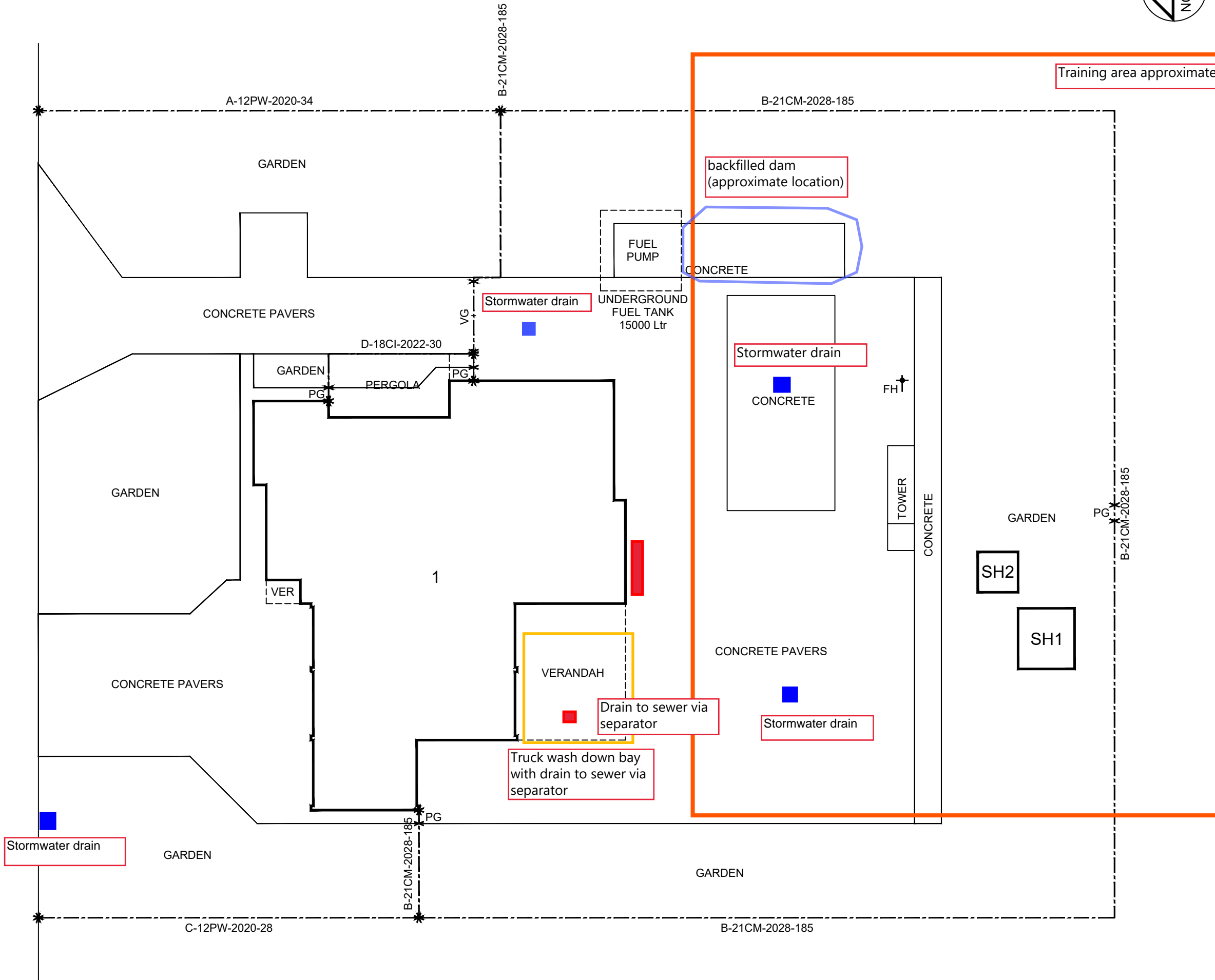


Asset no. _____
DTEI Office _____



BUILDINGS
 1 FIRE STATION
 SH1 GALV. IRON STORE SHED
 SH2 GALV. IRON STORE SHED

GRAND JUNCTION ROAD

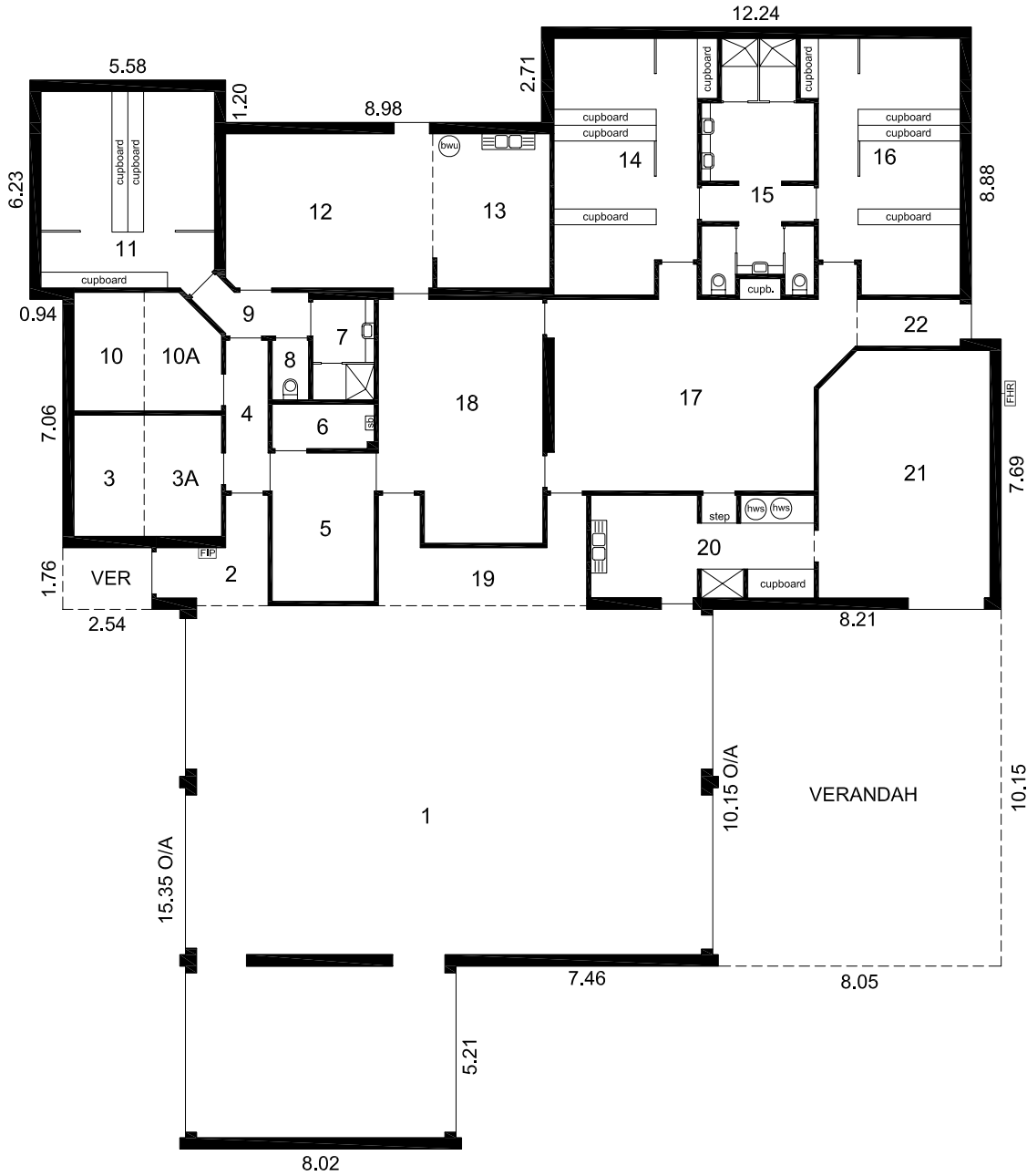
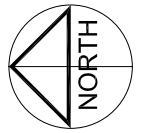


FENCES		code-height-type-fail date-length (ms)	
CI	corrugated iron	PI	profiled iron
CM	chain mesh	WM	weld mesh
GT	galube	NF	not fenced
PG	pedestrian gate	VG	vehicle gate
⊖ WM	Water Meter	*	Fence junction
⊖ GM	Gas Meter	PMT	Pad mtd trans

**OAKDEN SAMFS
 FIRE STATION
 GRAND JUNCTION ROAD
 GILLES PLAINS 5086**

Government of South Australia
 Department for Transport,
 Energy and Infrastructure

Asset no.	09164	Client.	ODEPT
DTEI Office.	ADELAIDE	Sheet.	1 of 1
Created by.	Archink	C Kneebone	May 2010
Modified by.	aTAM	K Tydeman	May 2019
Audited by.	Archink	A Bentley	May 2010
Title details.	refer layer " site-allotment " RT 8862539		
Site area.	0.4800 ha	Accuracy.	site survey
Strategic Asset Management Information System Plan			



Asset Name **OAKDEN SAMFS**

Building Use **FIRE STATION**

Created by. *Archink* Drawn *C Kneebone* Date *May 2010*

Modified by. *Archink* Drawn *A Bentley* Date *May 2010*

Bldg area m² **597** Ver area m² **88** Plan ref. -



Government of South Australia
Department for Transport,
Energy and Infrastructure

Strategic Asset Management Information System Plan

SAMIS 09164-01-1

intersection on Fosters Road, Grand Junction Road and traffic lights at Sudholz Road. We are also investigating a possible vehicle connection to Hilltop Drive.

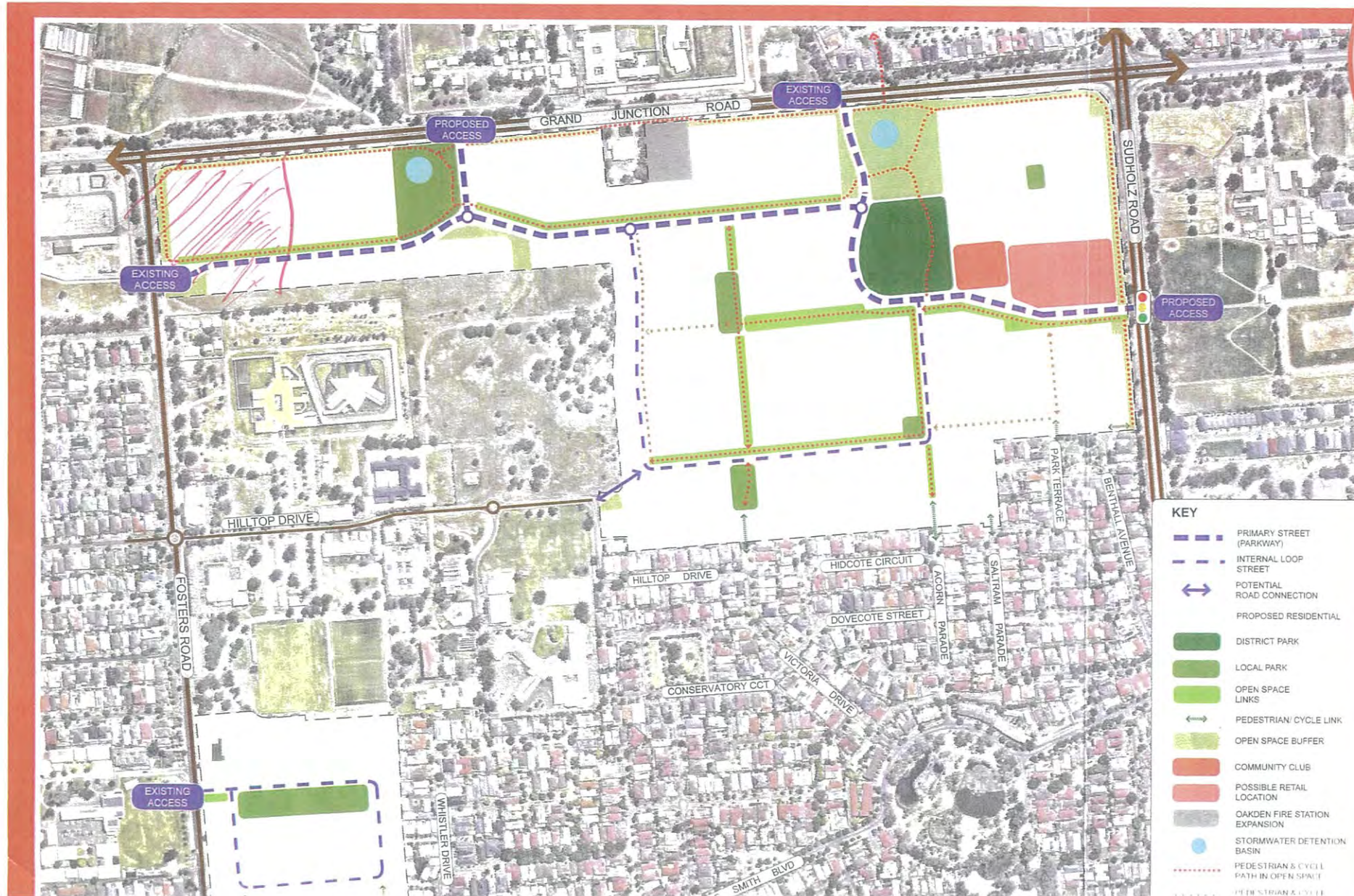
Open Space: Across the whole of the land, we expect the site to accommodate approximately 1,500 homes and over 8ha of open space.

Greening: Healthy significant and regulated trees will be retained with over 3,000 new trees expected to be planted throughout the development.

Demolition: All existing structures, other than the State Heritage listed Czechowicz House (former Superintendent's House), are to be removed.

State Government authorities.

Stage One Release: The first stage of allotments expected to be released to market in the mid 2022.



HAVE YOUR SAY
 If you have any questions on the structure plan please email your questions to oakdencommunity@villawoodproperties.com



Oakden is set to become a very special place to live; from having your very own community of walking trails to your doorstep housing that is right for you.

Combine this with a sense of community and masterplanned parks and gardens to welcome you home.

Appendix F

**SA EPA Statement to Form 1 Section 7
search results**



Environment Protection Authority
GPO Box 2607 Adelaide SA 5001
211 Victoria Square Adelaide SA 5000
T (08) 8204 2004
Country areas 1800 623 445

Receipt No :
Admin No : 123792 (77132)

GHD
Unit 2, 11 Victoria Square
ADELAIDE SA 5000

Contact: Section 7
Telephone: (08) 8204 2026
Email: epasection7@sa.gov.au

Contact: Public Register
Telephone: (08) 8204 9128
Email: epa.publicregister@sa.gov.au

27 February, 2023

EPA STATEMENT TO FORM 1 - CONTRACTS FOR SALE OF LAND OR BUSINESS

The EPA provides this statement to assist the vendor meet its obligations under section 7(1)(b) of the *Land and Business (Sale and Conveyancing) Act 1994*. A response to the questions prescribed in Schedule 1-Contracts for sale of land or business-forms (Divisions 1 and 2) of the *Land and Business (Sale and Conveyancing) Act 1994* is provided in relation to the land.

I refer to your enquiry concerning the parcel of land comprised in

Title Reference CR Volume 5759 Folio 678
Address Allotment 1655, Grand Junction Road, OAKDEN SA 5086

Schedule – Division 1 – *Land and Business (Sale and Conveyancing) Regulations 2010*

PARTICULARS OF MORTGAGES, CHARGES AND PRESCRIBED ENCUMBRANCES AFFECTING THE LAND

8. *Environment Protection Act 1993*

Does the EPA hold any of the following details relating to the *Environment Protection Act 1993*:

8.1	Section 59 - Environment performance agreement that is registered in relation to the land.	NO
8.2	Section 93 - Environment protection order that is registered in relation to the land.	NO
8.3	Section 93A - Environment protection order relating to cessation of activity that is registered in relation to the land.	NO
8.4	Section 99 - Clean-up order that is registered in relation to the land.	NO
8.5	Section 100 - Clean-up authorisation that is registered in relation to the land.	NO
8.6	Section 103H - Site contamination assessment order that is registered in relation to the land.	NO
8.7	Section 103J - Site remediation order that is registered in relation to the land.	NO

8.8	Section 103N - Notice of declaration of special management area in relation to the land (due to possible existence of site contamination).	NO
8.9	Section 103P - Notation of site contamination audit report in relation to the land.	NO
8.10	Section 103S - Notice of prohibition or restriction on taking water affected by site contamination in relation to the land.	NO

Schedule – Division 2 – Land and Business (Sale and Conveyancing) Regulations 2010

PARTICULARS RELATING TO ENVIRONMENT PROTECTION

3-Licences and exemptions recorded by EPA in public register

Does the EPA hold any of the following details in the public register:

a)	details of a current licence issued under Part 6 of the <i>Environment Protection Act 1993</i> to conduct any prescribed activity of environmental significance under Schedule 1 of that Act at the land?	NO
b)	details of a licence no longer in force issued under Part 6 of the <i>Environment Protection Act 1993</i> to conduct any prescribed activity of environmental significance under Schedule 1 of that Act at the land?	NO
c)	details of a current exemption issued under Part 6 of the <i>Environment Protection Act 1993</i> from the application of a specified provision of that Act in relation to an activity carried on at the land?	NO
d)	details of an exemption no longer in force issued under Part 6 of the <i>Environment Protection Act 1993</i> from the application of a specified provision of that Act in relation to an activity carried on at the land?	NO
e)	details of a licence issued under the repealed <i>South Australian Waste Management Commission Act 1979</i> to operate a waste depot at the land?	NO
f)	details of a licence issued under the repealed <i>Waste Management Act 1987</i> to operate a waste depot at the land?	NO
g)	details of a licence issued under the repealed <i>South Australian Waste Management Commission Act 1979</i> to produce waste of a prescribed kind (within the meaning of that Act) at the land?	NO
h)	details of a licence issued under the repealed <i>Waste Management Act 1987</i> to produce prescribed waste (within the meaning of that Act) at the land?	NO

4-Pollution and site contamination on the land - details recorded by the EPA in public register

Does the EPA hold any of the following details in the public register in relation to the land or part of the land:

a)	details of serious or material environmental harm caused or threatened in the course of an activity (whether or not notified under section 83 of the <i>Environment Protection Act 1993</i>)?	NO
----	--	----

- | | | |
|----|--|----|
| b) | details of site contamination notified to the EPA under section 83A of the <i>Environment Protection Act 1993</i> ? | NO |
| c) | a copy of a report of an environmental assessment (whether prepared by the EPA or some other person or body and whether or not required under legislation) that forms part of the information required to be recorded in the public register? | NO |
| d) | a copy of a site contamination audit report? | NO |
| e) | details of an agreement for the exclusion or limitation of liability for site contamination to which section 103E of the <i>Environment Protection Act 1993</i> applies? | NO |
| f) | details of an agreement entered into with the EPA relating to an approved voluntary site contamination assessment proposal under section 103I of the <i>Environment Protection Act 1993</i> ? | NO |
| g) | details of an agreement entered into with the EPA relating to an approved voluntary site remediation proposal under section 103K of the <i>Environment Protection Act 1993</i> ? | NO |
| h) | details of a notification under section 103Z(1) of the <i>Environment Protection Act 1993</i> relating to the commencement of a site contamination audit? | NO |
| i) | details of a notification under section 103Z(2) of the <i>Environment Protection Act 1993</i> relating to the termination before completion of a site contamination audit? | NO |
| j) | details of records, held by the former <i>South Australian Waste Management Commission</i> under the repealed <i>Waste Management Act 1987</i> , of waste (within the meaning of that Act) having been deposited on the land between 1 January 1983 and 30 April 1995? | NO |

5-Pollution and site contamination on the land - other details held by EPA

Does the EPA hold any of the following details in relation to the land or part of the land:

- | | | |
|----|--|----|
| a) | a copy of a report known as a "Health Commission Report" prepared by or on behalf of the <i>South Australian Health Commission</i> (under the repealed <i>South Australian Health Commission Act 1976</i>)? | NO |
| b) | details (which may include a report of an environmental assessment) relevant to an agreement entered into with the EPA relating to an approved voluntary site contamination assessment proposal under section 103I of the <i>Environment Protection Act 1993</i> ? | NO |
| c) | details (which may include a report of an environmental assessment) relevant to an agreement entered into with the EPA relating to an approved voluntary site remediation proposal under section 103K of the <i>Environment Protection Act 1993</i> ? | NO |
| d) | a copy of a pre-1 July 2009 site audit report? | NO |
| e) | details relating to the termination before completion of a pre-1 July 2009 site audit? | NO |

All care and diligence has been taken to access the above information from available records. Historical records provided to the EPA concerning matters arising prior to 1 May 1995 are limited and may not be accurate or complete.



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