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Renewal SA
08-May-2019

Preliminary Site Investigation

Former Oakden Older Persons Mental Health Facility

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Former Oakden Older Persons Mental Health Facility

Client: Renewal SA

ABN: 86 832 349 553

Prepared by

AECOM Australia Pty Ltd
Level 28, 91 King William Street, Adelaide SA 5000, Australia
T +61 8 7223 5400 F +61 8 7223 5499 www.aecom.com
ABN 20 093 846 925

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Prepared by Mitchell Talbot

Reviewed by Nicola McGunnigle

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	08-May-2019	Final Report	Mark Vial Professional Environmental Scientist	

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Executive Summary

AECOM Australia Pty Ltd (AECOM) was engaged to undertake a Preliminary Site Investigation (PSI) at the Former Oakden Older Persons Mental Health Facility, located at 200-202 Fosters Road, Oakden (the site).

It is understood that the PSI is intended to support rezoning of the site to residential and is to be provided to potential purchasers as part of the due diligence process.

The objectives of the PSI were to identify potentially contaminating activities (PCA) and associated chemicals of potential concern (COPC) relating to the site and to review each PCA in regards to the potential risks to human health for both the current (commercial) and proposed (low density residential) land uses.

The works conducted as part of the PSI included a site inspection, review of expected environmental conditions, site history review, historical report review and conceptual site model development.

The site is located in Oakden, approximately 8 km north north-east of the Adelaide CBD. The site is square in shape and approximately 6.44 hectares (ha) in size. A large nursing facility exists in the centre of the site but is no longer used for this purpose and is currently used for administrative purposes. Two vacant residential buildings are present in the north-west corner of the site. The remainder of the site consists of a large bituminised car park, poorly maintained gardens and lawns and large mature trees. The site is located directly adjacent to residential properties to the east and south.

Soils at the site are expected to consist of high plasticity clays and calcrete. Groundwater is expected to present at depths greater than 10 m below ground level (bgl) and was not historically encountered at the site during geotechnical sampling to depths of 6 m bgl. No groundwater wells are present at the site.

A site history assessment indicated that the site has been associated with hospital activities dating back to 1929 but was largely vacant up until the 1980s when the current Older Persons Mental Health Facility was constructed. Prior to this time the sites use was limited to a portion of a historical hospital ward formerly located in the east of the site (Ward A) and two residential dwellings in the sites north-west corner (Czechowicz House and Heaslip House).

Based on findings of the site history review and site inspection, it is unlikely any unacceptable risk to human health exists based on the sites current commercial use, providing that any intrusive or maintenance works are undertaken in accordance with standard occupational health and safety protocols.

If the site was to be redeveloped in future for a low density residential land use further assessment of the following identified PCAs and associated COPC is warranted:

- Potential waste oil underground storage tank associated with Ward A;
- Demolition waste associated with Ward A;
- Coke ash disposal associated with boilers potentially located within Ward A;
- Possible herbicide and pesticide use in the vicinity of Czechowicz House, Heaslip House and Ward A;
- Fill or soil importation; and
- Coal tar bitumen associated with car parking adjacent Ward A.

The identified PCAs are considered as having a low significance or highly localised and are unlikely to preclude the intended future land use.

1.0 Introduction

1.1 Background

AECOM Australia Pty Ltd (AECOM) was engaged to undertake a Preliminary Site Investigation (PSI) at the Former Oakden Older Persons Mental Health Facility, located at 200-202 Fosters Road, Oakden (the site).

It is understood that the PSI is intended to support rezoning of the land to residential and is to be provided to potential purchasers as part of the due diligence process.

1.2 Objective

The objectives of the PSI are:

- To identify potentially contaminating activities (PCAs) and associated chemicals of potential concern (COPC) relating to the site; and
- Review each PCA in regards to potential risks to human health for both the current (commercial) and proposed (low density residential) future land use.

1.3 Scope of works

The scope of works undertaken for the project is outlined below:

- Review of available historical information provided by Renewal SA, including:
  - Historical building plans from DPTI
  - Historical aerial photographs (10 year intervals from 1949 to present)
  - Asbestos register
  - Safe Work SA Dangerous Substances Licence Search
  - Previous investigations on nearby sites
- A desktop assessment including the following information:
  - Site identification and zoning
  - Site description and current land use
  - Surrounding land use
  - Current and historical Certificates of Title (CTs)
  - Review of historical aerial photographs and recent Nearmap images
  - Topography and drainage
  - Soils, geology and hydrogeology
  - Review of public records (SA EPA Section 7, Site Contamination Index for nearby Section 83A notifications, environmental protection and clean up orders, authorisations, dangerous substance licences)
  - Review of previous investigations
  - Interviews
- A site walkover detailing current site conditions.
- Compilation of a PSI report documenting the findings of the above and presenting a preliminary Conceptual Site Model (this report). For each PCA details will be entered regarding the likely location, potential COPC, contaminant persistence/mobility in soils and toxicity.

2.0 Site Information

2.1 Site Identification

Site identification details and background information are summarised in **Table 2-1**.

The site location is shown on **Figure 1** (**Appendix A**).

Table 2-1Site Identification

Item	Description	
Facility Name	Former Oakden Older Persons Mental Health Facility	
Facility Address	200-202 Fosters Road, 5086, Oakden	
Certificate of Title	Crown Record (CR) 5547/146	
Allotment and Deposited Plan	Allotment 300 Deposited Plan 45084	
Hundred	Hundred of Yatala	
Site Coordinates	Lat: -34.8551484 Long: 138.6383620	
Area of Site	6.455 ha	
Current Site Owner	The Crown (Custodian: Minister or Mental Health and Substance Abuse)	
Current Site Occupier	Various community and government groups	
Local Government Authority	City of Port Adelaide Enfield	
Current Zoning	Mixed Use	
Former Site Use	Mental Health and Nursing Facility (Public Institution)	
Current Site Use	Administrative and outpatient services	
Proposed Site Use	Potential Residential	
Surrounding Land Uses[1]	North	Recreation and Reserves
	East	Residential and Educational
	South	Residential
	West	Residential

2.2 Site description

The site layout and key features are detailed in **Figure 2** (**Appendix A**).

The site is roughly square in shape and fenced along its eastern and southern boundary where it directly abuts residential properties. The site is partially fenced to the north where two recreational sporting grounds are present. The main site access is along its eastern boundary from Fosters Road.

Two large buildings are constructed in the centre and towards the north-west corner of the site. A number of smaller buildings are present in the north-west and south-east corners of the site. A large bituminised car park is present in the south-west corner of the site adjacent Fosters Road.

The names of key buildings at the site are summarised in **Table 2-2** to assist in their identification throughout this report.

[1] Generalised Land Use, 2018 (Property Location Browser, 2019)

Table 2-2: Key Site Buildings

Building ID	Description
Czechowicz House	Residential style building located in north-west corner of site
Heaslip House	Residential style building located in the north-west corner of site.
The Oaks	Large main building located in the centre of the site. Contains McLeay House, Makk House, Clements House and Zweck House. Currently unoccupied.
Howard House	Secondary large building located north-west of The Oaks building. Currently used as an administrative building and community space.
Shed A	Shed located northerly adjacent Czechowicz House.
Shed B	Shed located between Czechowicz and Heaslip House.
Shed C	Two Sheds located in the south-east corner of the site.

2.3 Council Zoning

The site is located in the City of Port Adelaide Enfield and is zoned Mixed Use, according to the Port Adelaide Enfield Development Plan (consolidated 6 February 2018).

2.4 Heritage Listed Buildings

A search of South Australian Heritage Places database identifies Czechowicz House (former Superintendent's House) as a confirmed State Heritage Place (State Heritage ID: 25913) stating that the building:

- Demonstrates important aspects of the evolution or pattern of the State's history; and
- Has a special association with the life or work of a person or organisation or an event of historical importance.

3.0 Environmental Setting

3.1 Topography

3.1.1 Regional

A map showing the regional topography of the site is presented in **Appendix E**.

The site is situated 83 to 85 m above the Australian Height Datum and slopes gently in a westerly direction.

There are no topographical features of note at or in vicinity of the site.

3.2 Geology

3.2.1 Regional

The 1:100,000 geological profile map of Adelaide indicates that two geological units are present across the site. The site is predominantly underlain by an unnamed geological unit of undifferentiated Pleistocene calcrete (Qp/ca). The Keswick Clay formation (Qpas) is present in the south-east corner of the site consisting of smectite-rich, grey-green clays with red or yellow mottling with rare occurrence of sand lenses (Department of State Development, Resources and Energy, 2012)

The dominant soil strata present across the site consists of shallow red-brown clay soils overlying a thin layer of lime/calcrete layer atop calcareous bedrock (DEW, 2009).

3.2.2 Site Specific

The PPK Environmental Site Investigation (ESI) report (1994) includes details of four geotechnical bores advanced at the site to maximum depths of 6 m bgl. The typical geology encountered in these bores is summarised in **Table 3-1**.

Table 3-1: Typical Geology Encountered at the Site

Depth (m bgl)	Typical Geology Encountered
0-1.5	Clayey SILT and Silty CLAY, highly calcareous, pale brown/white.
1.5-5.5	CLAY, calcareous content decreasing with depth, grey and brown mottled, high plasticity, trace fine sands, increasing sand content with depth.
5.5-6.0	Clayey Fine SAND, grey, yellow and red.

3.3 Hydrology

A map showing hydrological features within 2 km of the site (as per the EPA Guidelines for assessment and remediation of site contamination) is provided in **Appendix E**.

No hydrological features are present on the site. A number of artificial perennial lakes are present at distances greater than 500 m from the site.

A tributary of the Dry Creek is present north of the site but at distances greater than 500 m.

3.4 Hydrogeology

3.4.1 Regional

Maps showing the expected depth and salinity of shallow groundwater are provided in **Appendix E**.

Shallow groundwater is expected to be encountered at a depth of 10-20 m below ground level (bgl).

The expected salinity of shallow groundwater is expected to between 1500-3000 mg/L.

3.4.2 Registered Groundwater Bores

A summary of registered groundwater bores on and within 2 km of the site is provided in **Appendix F**.

Four registered bores exist on the site but are listed as abandoned. The bores were initially installed for engineering purposes to depths less than 10 m.

135 registered bores exist within a 2 km radius of the site, of which 62 are listed as abandoned, backfilled or not in use. The purpose of the remaining 73 bores are summarised in **Table 3-2**. The nearest bore potentially for extractive purpose is an environmental/recreational bore installed to 80 m depth in 1999 and located 390 m south west of the site.

The nearest bores installed within the shallow aquifer and with standing water level (SWL) data are located 770 m north north-west of the site at the intersection of Fosters and Grand Junction Roads (electrical substation). For the 15 bores at this location, available data indicates SWL at depths less than 2 m bgl. Given the proximity of these bores to Dry Creek the depth of groundwater at this location is not considered to reflect the likely depth to groundwater at the site.

Table 3-2: Summary of Registered Bores

Purpose	Count
Construction Materials	3
Domestic	1
Drainage	1
Environmental	3
Exploration	1
Industrial	1
Investigation/Monitoring and Observation	32
Irrigation	1
Unknown or not listed	33

3.4.3 Site Specific

No known groundwater investigations have historically occurred at the site and previous bores advanced for geotechnical purposes at the site did not encounter groundwater at depths of 6 m bgl (PPK, 1994).

Anecdotal evidence suggests that two groundwater pumps were installed at or to the east of the site (PPK, 1994), however conflicting anecdotal information suggests that these pumps were installed either:

- To drain the raised foundations beneath the Oaks building which were prone to flooding during heavy rainfall; or
- For irrigation purposes, however the water was too saline for use.

An assessment of the stormwater infrastructure at the site conducted in 1995 (John Botting and Associates, 1995) seems to discredit both above suggested uses of the pump house, stating that it was historically associated with the stormwater infrastructure of a historical ward located across the eastern boundary of the site. In addition, the stormwater infrastructure report clarifies that an independent sump and pumping system exists within the raised foundations of the Oaks building to collect and drain collected stormwater (John Botting and Associates, 1995).

4.0 Site Inspection

AECOM staff undertook a site inspection on 12 April 2019 and were accompanied by long serving staff during internal building walk throughs.

Plates are provided in **Appendix C**.

4.1 Site Setting and Surrounding Environment

The property is securely fenced along its eastern (**Plate 4**), southern (**Plate 2**) and northern boundaries (**Plate 3**) but is readily accessible by the public from its western boundary off Foster Road (**Plate 1**).

The majority of infrastructure exists in the central and western portions of the site, with the eastern portion of the site largely consisting of poorly maintained lawns, with the exception of a small memorial garden in the north-east corner (**Plate 6**). The site is generally flat, although an area of anomalous mounding is present in the eastern portion of the site (in the approximate location of former Ward A) (**Plate 4 & 5**).

A large asphalt car park exists in the south-west corner of the site (**Plate 7**) and a smaller car park is present in the east of the site (which historically served Ward A) (**Plate 8**). A bituminised road circumnavigates the main buildings at the site. The asphalt at the site is of varying quality with large cracks are present in some areas. Paved and concrete paths run across the site connecting various buildings.

Poorly maintained gardens exist across the site as well as numerous large mature trees (**Plate 9**). Large cracking in the surface of the site is evident in many locations suggesting that highly expansive clay soils underlay the majority of the site and that the site has not been irrigated in some time (**Plate 11**). Imported sand fill was present in the north-west corner of the site adjacent Czechowicz House (**Plate 12**).

To the north of the site a recreational sports ground exists which serves as the home ground of the Adelaide City Football Club (**Plate 3**). Low density residential properties are present directly adjacent to the east and south site boundaries. Cedar Secondary College and residential properties are located to the west of the site across Fosters Road. (**Plate 10**).

4.2 Property Development

4.2.1 Buildings and Infrastructure

A summary of the main buildings and infrastructure on site is provided in **Table 4-1.**

Access to the interior of Czechowicz House, Heaslip House, Shed B and part of Shed C was not provided during the inspection.

Limited access to Howard House was provided during the inspection due to the building still being in operation.

The presence of asbestos containing materials was evident at Czechowicz House, Heaslip House, Howards House and at the Oaks building.

Table 4-1: Summary of Buildings on-site

Building	Description	Plates
Czechowicz House	• Residential style building of early 1900s construction. • Includes attached garage. • Building is dilapidated in areas. • No loose asbestos containing materials (ACM) identified in vicinity of building. • No interior access was granted. • Understood to be vacant for extended period and used for storage of miscellaneous items.	**Plate 13** **Plate 14**

Building	Description	Plates
Heaslip House	• Residential style building of early 1950s construction. • Building is dilapidated in areas. • No interior access was granted. • No loose ACM identified in vicinity of building. • Understood to be vacated for an extended period and used for storage of miscellaneous items.	**Plate 15**
Howards House	• Commercial style hospital/nursing building. • Partially used for administrative, community and outpatient services, however largely vacant. • Two plant rooms are present: - Plant Room A houses only what appear to air conditioning units. No chemical use or storage was evident. - Plant Room B houses what appear to be air conditioning units. A number of large tanks are also present but appear to be no longer in use. The tanks are likely associated with the adjacent boiler room. There is an access point to the building foundations through this room. No evidence of bulk fuel storage or chemical use was apparent. • A boiler room is present. It appears the boiler has been removed. No evidence of bulk fuel storage or chemical use was apparent. • A flammable gas storage room is present historically used to store oxygen cylinders. The storage is now largely vacant although on oxygen cylinder was present. There was no evidence of staining in this storage. • Asbestos warning stickers are present on cladding across the building.	**Plate 16** **Plate 17** **Plate 18** **Plate 19** **Plate 20** **Plate 21**
The Oaks	• Commercial style hospital building. • Building completely vacated. Some nursing equipment still present. • Interior walk through of building did not identify any chemical use or storage beyond domestic cleaning agents. • Four plant rooms are present in building (Plant Room C, Plant Room D, Plant Room E and Plant Room F). • All plant rooms house what appear to be air conditioning units and have access points to the building foundations. No evidence of bulk fuel storage or chemical use in any of the plant rooms was evident. • Laundry rooms are present within the building however have been decommissioned. It is understood that no commercial scale laundry was undertaken on the site[2].	**Plate 22** **Plate 23** **Plate 24** **Plate 25** **Plate 26** **Plate 27**

[2] Based on discussion with long serving site personnel who was in attendance during site inspection.

Building	Description	Plates
	• Various ACM warning stickers are present across the building. • Small domestic sized aviaries (empty) surround the building.	
Shed A	• Shed A contained bulk miscellaneous hard waste.	**Plate 28**
Shed B	• The interior of Shed B was not viewed during the site inspection. • It is anecdotally stated to house gardening supplies and miscellaneous bulk materials.	**Plate 29**
Shed C	• Shed C consists of two adjacent steel constructed sheds. • The interior of the eastern most shed was not viewed during the site inspection. • The western shed contained miscellaneous hard waste including office furniture, medical equipment and BBQ gas bottles.	**Plate 30**
Electrical Transformer	• Electrical transformers are present to the east of Howards House.	**Plate 31**
Telecommunications Tower	• A tower is present to the east of the Oaks building. • It is unclear what the tower was used for and whether it was still operational.	**Plate 32**
Vents	• Mushroom shaped vents surround the Oaks and Howard House buildings. • They are assumed to vent the underlying raised foundations and to prevent the accumulation of moisture.	**Plate 33**

4.2.2 Drainage

Multiple stormwater sumps and spoon drains are present across the site. No large earthen drains were identified on-site, however an open channel runs parallel to the northern site boundary off site (**Plate 3**).

Stormwater is expected to drain to Fosters Road and is not collected on-site.

4.2.3 Services

Multiple service pits and manhole covers were identified at the site which indicated that the site is connected to municipal water, sewer and gas.

As detailed in **Table 4-1**, two transformers are present on site. The site is connected to main power by high voltage underground cable.

Fire hydrants are present across the site.

4.2.4 Underground fuel storage

No evidence of underground fuel storage was encountered during the site inspection.

4.2.5 Other features of note

A large pile of miscellaneous hard rubbish is present adjacent Shed C consisting of pallets, mattresses, plastic chairs, tables and brick (**Plate 34**).

4.3 Evidence of contamination

No evidence of contamination (e.g. staining, discoloration, odour) was encountered during the site inspection.

Particular focus was given to the former location of Ward A, however no evidence of demolition waste was noted. Significant mounding was noted in this area as discussed in **Section 4.1**.

5.0 Site History

5.1 Past and Current Site Ownership and Occupancy

Certificate of Title	Commencement of Ownership	Owner	Parent Title(s)
CR 5547/146	22/06/1998	The Crown Custodian: Minster for Mental Health and Substance Abuse	CR 5351/99 CR 5470/702
CR 5351/99	12/07/1996	The Crown Custodian: Minister for Human Services.	CR 5246/76 CR 5258/354
CR 5470/702	13/11/1997	The Crown Custodian: Minister for Human Services.	CR 5351/100
CR 5351/100	13/11/1997	The Crown Custodian: Minister for Environment and Conservation.	CR 5258/354
CR 5246/76	06/02/1996	The Crown Custodian: Minister for Human Services.	CR 5241/34
CR 5258/354	29/03/1995	The Crown Custodian: Minister for Environment and Conservation.	CT 5188/828 CR 5246/77
CR 5246/77	06/02/1995	The Crown Custodian: Minister for Environment and Conservation	CR 5241/34
CR 5241/34	12/01/1995	The Crown Custodian: SA Health Commision	**10 6100/0855***
CT 5188/828	23/05/1994	South Australia Urban Projects Authority	CT 5172/427
CT 5172/427	01/03/1994	South Australian Housing Trust – South Australia Urban Projects Authority	CT 4400/442 CT 5170/531
CT 5170/531	18/02/1994	South Australian Housing Trust – South Australia Urban Projects Authority	CT 5152/159
CT 5152/159	29/10/1993	South Australian Housing Trust – South Australia Urban Projects Authority	CT 5134/407
CT 5134/407	27/07/1993	South Australian Housing Trust – South Australia Urban	CT 4382/277 CT 5116/779

Certificate of Title	Commencement of Ownership	Owner	Parent Title(s)
		Projects Authority	
CT 4400/442	13/06/1993	South Australian Urban Land Trust	-
CT 5116/779	13/04/1993	South Australia Urban Land Trust	CT 4391/812
CT 4382/277	17/06/1991	The Minister of Lands	-
CT 4391/812	06/11/1991	South Australia Urban Land Trust	-

*Certificate of Title on SALIS database is listed incorrectly and could not be identified.

5.2 Historical Aerial Photography Review

A review of aerial photography from 1949 to present is presented in **Table 5-1**. Copies of aerial photographs are attached as **Appendix H**.

No evidence of significant potentially contaminating activities is evident from the photography, with the site largely vacant until the 1980s. A key event of interest evident in the aerial photography is the construction and subsequent demolition Ward A in the early the 1950s and 1990s respectively.

Table 5-1: Aerial photography review

Date	Aerial Description
1949	**On-Site** • The site is largely undeveloped. • Czechowicz House in the north-west corner of the site is present and appears to be surrounded by manicured gardens. **Surrounding** • North: A sporting oval is present although different to the one present currently. • East: A building (Folland House) is present adjacent to the north-east corner of the site. The remainder of land along the eastern boundary is undeveloped. • South: Undeveloped land. • West: Undeveloped land.
1959	**On-Site** • The site remains predominately undeveloped. • Heaslip House has been constructed in the north-west corner of the site, southerly adjacent Czechowicz House. • A large manicured garden is present west of Folland House. • A new ward of the Northfield Mental Hospital (Ward A) has been constructed and extends across the site's eastern boundary. **Off-site** • North: No significant change. • East: No significant change. • South: No significant change. • West: Ward A has been constructed.
1969	**On-Site** • No significant changes. **Off-site** • North: No significant change. • East: No significant change. • South: No significant change. • West: No significant change.

Date	Aerial Description
1979	**On-Site** • Shed A has been constructed. • A shed has been constructed between Heaslip House and Czechowicz House. • No other significant changes. **Off-Site** • North: No significant change. • East: No significant change. • South: No significant change. • West: A recreational reserve is present across Fosters Road.
1989	**On-Site** • The site has been significantly redeveloped. • Howards House and the Oaks building have been constructed in the site centre. • Shed B has been constructed between Heaslip House and Czechowicz House. • Carparks in the south-east and south-west corners have been constructed. • Paved roads have been constructed across the site. **Off-Site** • North: No significant change. • East: No significant change. • South: No significant change. • West: No significant change.
1999	**On-Site** • Folland House and Ward A (east of the site) have been demolished. • The land where Ward A was present appears to be cleared and is now covered in lawn. • Shed B has been constructed. **Off-Site** • North: No significant change. • East: Folland House has been demolished and land is vacant. • South: A residential development has been constructed. • West: No significant change.
2005	**On-Site** • No significant changes. **Off-site** • North: No significant change. • East: The land has been developed into a housing estate. • South: Further residential housing has been constructed to the south-west. • West:.
2009	**On-Site** • A small annex has been constructed to the south of the Oaks building. **Off-Site** • North: No significant change. • East: Residential properties are now present along the entirety of the eastern site boundary. • South: No significant change. • West: Further residential housing has been constructed to the south-west.
2019	**On-Site** • No significant changes. **Off-Site** • North: Sporting ground has been redeveloped. • East: No significant change. • South: No significant change. • West: No significant change.

5.3 Site Use History

The site use history has been compiled based on historical reports and site plans provided by Renewal SA and attached in **Appendix K**.

5.3.1 Pre-1949

Little information could be obtained regarding the sites use prior to 1949. However, it is understood that portions of the site have been associated with the Northfield Mental Hospital which was opened in 1929. As such, it is likely that the clearing and initial development of the site corresponds with this time.

The Northfield Mental Hospital was opened in 1929 to accommodate overcrowding at the Parkside Mental Hospital. Folland House was a ward of the Northfield Mental Hospital and was constructed adjacent the north-east corner of the site. The gardens of Folland House extended within the site's boundaries (SA Health, 2017).

The hospital is understood to have abutted farmland to provide therapeutic occupation to long term patients of the hospital. There is potential that areas of site may have been used for this purpose.

Czechowicz House was constructed in 1938 and served as housing for the hospital superintendent.

It is noted that the suburb of Oakden was historically a part of the suburb of Northfield.

5.3.2 1949-1959

In 1953 an additional ward was approved and constructed during this period (Ward A[3]). A portion of this building extended onto the site across the eastern site boundary. Ward A was originally constructed as a 40 bed ward housing "women suffering from intellectual and mental aliments". The ward included a kitchen, domestic facilities and a boiler room (The News, 1953).

Site plans show that for a period Ward A was used to house women infected with tuberculosis. Plans from 1955 show that Ward A also included an oil-fired sputum incinerator and associated 2000 litre underground storage tank (UST). The plans are unclear as to the exact location of the UST.

Heaslip House was also constructed during this period and is assumed to have served the same purpose as Czechowicz House.

5.3.3 1959-1979

There is little information relating to the site use during this time. Based on available information and aerial photography it is assumed that small portions of the site were continued to be used as part of the Northfield Mental Hospital prefecture.

In 1964 the hospital was renamed Hillcrest Hospital (SA Health, 2017).

5.3.4 1979-1989

Between 1979 and 1982, the Oaks and Howards House was constructed and opened at the site. The Oaks Building, referred to as a psychogeriatric unit at the time, was built as part of the Hillcrest Hospital prefecture to house older persons with mental illness (SA Health, 2017).

Plans show that the Oaks and Howards House contained multiple plant rooms containing boilers. The plans suggest that the boilers were fed by municipal gas and that no on-site bulk fuel storage was present.

The plans from this period are consistent with the current layout of the Oaks and Howards House, suggesting no major structural changes has occurred to these buildings since this time.

[3] Ward A was named Howard House prior to its demolition. To avoid confusion with the current Howard House at the site this building is referred to as Ward A in the report.

5.3.5 1989-1999

In 1994 the Hillcrest Hospital was closed and Ward A was demolished. No records of the demolition could be obtained.

The site use continued as a mental health care facility for the elderly and in 1998 received Commonwealth accreditation as a nursing home facility.

The suburb was renamed Oakden during this period corresponding with the closure of the Hillcrest hospital.

5.3.6 1999-Present

The site's use continued as a mental health care facility for the elderly and nursing home into the 2010s. Throughout this time portions of the facility were closed and relocated to more suitable modern facilities off site.

In 2017 the site care facility was closed and the last patient was removed (SA Health, 2017).

5.4 Public Records

5.4.1 Section 7 Public Register

Section 7 documentation was requested from the EPA and provided on 16 April 2019.

The Section 7 reported identified three records relating to the site:

- EPA\2804 – Licence to produce listed waste;
- P0322 – South Australian Waste Commission Licence to Produce Prescribed Waste; and
- SC16178 – South Australian Health Commission (SAHC) Report.

EPA\2804 and P0322 relate to the production of medical waste associated with the hospital. Both document that medical waste was disposed of by a contractor and no on-site disposal occurred. As such, the waste production associated with these two licenses is not considered to warrant further consideration.

The SAHC report associated with SC16178 is discussed in **Section 5.5**.

Copies of the Section 7 search and documents associated with EPA\2804 and P0322 are provided in **Appendix I**.

5.4.2 Site Contamination Index

A search of the EPA site contamination index was undertaken on 11 April 2019 for the suburbs of Oakden and Northfield (EPA, 2019a). A summary of relevant records in proximity of the site are detailed in **Table 5-2**. The index was last updated on 23 January 2019. Copies of reports related to these records have been reviewed and are discussed in **Section 5.5**.

A full list of records is presented in **Appendix I**.

Table 5-2: Site Contamination Index Results

EPA Ref.	Record Type	Address	Distance From Site
16178	SAHC report	Former Hillcrest Hospital Fosters Road Oakden SA 5086.	On-site
10165	Site audit report	Trinity Way & Buckingham Street Oakden SA 5086	0 m (adjacent site western boundary)
10048	Site audit report	Northfield Precincts 1 & 2, + Morris Hospital Northfield SA 5085	100 m (west)

5.4.3 EPA Authorisations

A search of the EPA Authorisation records was undertaken on 11 April 2019 for the suburbs of Oakden and Northfield. No current EPA authorisation records were listed for either suburb (EPA, 2019b).

The index was last updated on 30 May 2018.

5.4.4 Environmental Protection and Clean Up Orders

A search of the Environment Protection and Clean Up Order records was undertaken on 11 April 2019 for the suburbs of Oakden and Northfield. No EPA records were listed for either suburb (EPA, 2019c).

The index was last updated on 30 May 2018.

5.4.5 Dangerous Substances Licence Search

A Dangerous Substances Licence search was undertaken on 2 April 2019 and is included as **Appendix J.** The search did not identify any dangerous substance records for the site.

5.5 Previous Environmental Reports

The following historical environmental reports directly relevant to portions of the site was provided by Renewal SA:

- (Rust PPK, 1994) Potential Environmental Issues and Preliminary Testing at Hillcrest Hospital, Fosters Road, Gilles Plains, SA, dated 2 December 1994, Rust PPK Pty Ltd; and
- (John Botting and Associates, 1995) Hillcrest Hospital Stormwater Infrastructure Assessment, dated 25 May 1995, John Botting and Associates Consulting Engineers.

The following additional reports were provided by Renewal SA which are not directly relevant to the site but relate to adjacent sites once part of a collective certificate of title:

- (SAHC, 1995) Hillcrest Hospital, Fosters Road, Gilles Plains – Site Assessment Report, dated 15 June 1995, South Australian Health Commission.
- (Rust PPK, 1995) Further Investigation of Potential Contamination at Hillcrest Hospital Fosters Road Gilles Plains, SA, dated 21 July 1995, Rust PPK Pty Ltd; and
- (Tonkin, 1999) Lots 351 and 352, DP48652 Former Hillcrest Hospital, Site Audit Report Volume 1 & 2, dated 23 July 1999, BC Tonkin & Associates.

The following report was provided by Renewal SA but does not contain information deemed relevant to the site:

- (Coffey, 1998) Environmental Site Audit Report – Northfield Development SA, Area 8N: Northern Broadacre, dated 10 July 1998, Coffey Partners International Pty Ltd.

5.5.1 1994 Environmental Site Investigation

Rust PPK was engaged in 1994 to investigate potential site contamination, environmental and other related issues arising from historical and current site activities at a section of the Hillcrest Hospital.

The investigation encapsulated a small portion of the eastern portion of the site.

The report details the following environmental issues that may be relevant to the site:

- Prior to 1961 each ward had an individual coke ash fired boiler. Coke ash was used to surface pathways throughout the hospital;
- The area north of Ward A was anecdotally landscaped and filled with building salvage waste;
- White ant treatment may have occurred at any structure containing wood and potentially on dead trees.

Soil sampling was conducted as part of this investigation, however all samples were taken a significant distance from the site and results are not considered relevant.

5.5.2 1995 Hillcrest Hospital Stormwater Infrastructure Assessment

John Botting and Associates was engaged to review the stormwater management systems at the Hillcrest Hospital, including those associated with the Oaks, Howards House and in the vicinity of Ward A. Although the report does not identify any environmental issues it does clarify anecdotal information relating to historical groundwater wells and flooding at the site, as discussed in **Section 3.4.3**.

5.5.3 Adjacent and off-site reports

The SAHC Report, 1995 PPK Report and 1999 Tonkin Audit Report relate to adjacent land allotments which once formed a collective certificate of title with the site. Although the reports make mention of some areas of the site, they are largely discussed in context of the 1994 PPK ESI and do not provide any new information pertaining analytical results or historical activities undertaken at the site.

Based on the location of the PCAs described in these reports it is considered unlikely that any migration of contaminants onto the site has occurred.

5.6 Asbestos Register

An asbestos register for the site was updated by Carters Asbestos Management in 2017 and is included as **Appendix D**.

The register identifies multiple ACMs across the site within Howards House, the Oaks Building, Czechowicz House and Heaslip House.

The majority of ACMs items are listed as low risk, with the exception of matters relating to Czechowicz House and Heaslip House. It is stated that the peeling paint and board at Heaslip House should be monitored.

6.0 Data Gaps

As per the ASC NEPM Schedule B2 (NEPC, 1999) significant data gaps should be identified when preparing a PSI.

Data gaps relevant to the achievement of the objectives of this PSI are summarised in **Table 6-1**

Table 6-1: Data gaps

Data gap	Signifcance
The exact location of the UST assumed associated with Ward A is unclear. There is no record of whether the UST was removed.	In the absence of records detailing the removal of the UST it must be assumed that the UST still exists at the site.
Demolition practices associated with Ward A.	In the absence of detailed demolition records there is potential that demolition waste may be present at the site.
Long serving staff interviews.	No long serving current or former staff were identified to provide anecdotal information on historical practices at the site. Although this information would be useful it does not preclude the objectives of the PSI from being achieved.
Detailed records of anecdotal evidence relating to historical practices associated with: • Application of pesticides and herbicides; • Disposal of incinerator waste; • Use of coal tar bitumen; and • Fill or soil importation.	As no records could be identified relating to these items and given activities associated with these practices were common place during a period of the site's development and tenancy it is necessary to assume that they may exist.

7.0 Preliminary Conceptual Site Model

7.1 Elements of a conceptual site model

A preliminary conceptual site model (CSM) has been formulated utilising available information to determine the presence of potential exposure pathways and hence the presence of significant risk to susceptible receptors such as humans, ecosystems or the built environment. For a significant or identifiable risk to exist an exposure pathway must be present which requires each of the following to be identified:

- The presence of substances that may cause harm (SOURCE);
- The existence of means of exposing a receptor to the source (PATHWAY); and
- The presence of a receptor which may be harmed at an exposure point (RECEPTOR).

In the absence of a plausible exposure pathway there is no risk. Therefore, the presence of measurable concentrations of chemical substances resulting from previous site activities does not automatically imply that the impacts will cause harm. In order for this to be the case a plausible exposure pathway must be present allowing a source to adversely affect a receptor. The nature and importance of both receptors and exposure routes, which are relevant to any particular site, will vary according to its characteristics, intended end-use and its environmental setting.

7.2 Identified Potentially Contaminating Activities

Based on the site history investigation conducted by AECOM, the following PCAs were identified for the site. Identified PCAs, the likelihood of each PCA to have occurred and the significance of any potential resultant contamination is summarised in **Table 7-1**.

PCAs that are considered unlikely to have occurred or not of significance are deemed to not warrant further consideration.

The suspected location of each PCA is detailed on **Figure 2, Appendix B**.

Table 7-1: Potentially Contaminating Activities

PCA	COPCs	Description	Likelihood	Significance
Underground Storage Tank (UST) – Former Fuel Oil Tank	• Total recoverable hydrocarbons (TRH) • Benzene, toluene, ethylbenzene, xylene and naphthalene (BTEXN) • Polycyclic-aromatic hydrocarbons (PAHs) • Volatile organic compounds (VOCs) • Metals	A site plan from 1955 suggests a UST associated with Ward A may have been present at the site. The exact location of the UST is unclear. It is also unclear in the absence of demolition records whether the UST was removed.	Medium	High
Demolition Waste associated with Ward A.	• ACMs • Metals • Building waste	Ward A was demolished in 1993. No records of the demolition works were identified. Although demolition works were likely to be undertaken to expected industry standards, in the absence of any records correct disposal cannot be confirmed. No evidence of demolition waste was identified during the site inspection however mounding (of unknown source) was evident in the historical location of Ward A.	Possible	Medium
Coke ash disposal associated with boilers potentially located within Ward A.	• PAHs	The 1994 ESI (PPK, 1994) states that prior to 1961 each ward had a coke ash fired boiler and waste coke ash was used to surface pathways around the hospital. Given Ward A was constructed in the 1950s it is likely a coke ash boiler existed in this building.	Possible	Low
Domestic incineration and boilers associated with residential use of Czechowicz House and Heaslip House	• PAHs	Boilers and domestic incinerators were common place at residential properties constructed during the early 1900s.	Possible	Low

PCA	COPCs	Description	Likelihood	Significance
Possible herbicide and pesticide use in the vicinity of Czechowicz House, Heaslip House and Ward A.	• Organochlorine Pesticides (OCP) • Organophosphorus Pesticides (OPP) • Arsenic	Use of historical herbicides and pesticides in vicinity of Czechowicz House, Heaslip House and Ward A. Providing application was undertaken in accordance with manufacture instructions significant wide spread contamination is considered unlikely.	Possible	Low
ACMs associated with Czechowicz House, Heaslip House, the Oaks building and Howard House.	• ACMs	ACMs are known to exist at a number of locations at the site. Providing these materials are monitored and managed as per the asbestos register for the site, significant contamination from these materials is considered unlikely.	Known to exist	Low
Coal tar bitumen associated with car parking adjacent Ward A.	• PAHs	Given asphalt areas in the east of the site (adjacent former Ward A) at the site predate 1970 there is potential that coal tar bitumen was used. Given the small bituminised area present adjacent Ward A significant wide spread contamination is considered unlikely.	Possible	Low
Transformers	• PCBs	There is potential that the two transformers located to the east of Howard House may contain PCBs. However, given the transformers were installed after 1979 the potential for PCBs to be present is considered highly unlikely.	Highly unlikely	Low
Fill or soil importation	• Various	There is potential for imported fill to exist associated with the construction of Czechowicz House, Heaslip House and Ward A. Fill material associated with Howard House and the Oaks building is considered unlikely given the buildings are on raised foundations and a significant sub surface area is present. In addition, anecdotal evidence in the 1994 ESI (PPK, 1994) states that fill material was used for landscaping adjacent Ward A. Areas of imported fill were identified in the north-western corner of the site (although the fill identified was consistent	Likely	Low to Medium

PCA	COPCs	Description	Likelihood	Significance
		with that of virgin sand materials).		
Miscellaneous hard waste	• Nil	Miscellaneous hard wastes were identified during the site inspection. Based on the nature of these wastes, they are not considered to have resulted in any significant contamination.	Known to exist.	Not significant.

7.3 Potential transport mechanisms and exposure routes

The main transport mechanisms and exposure routes relevant to the identified COPCs are detailed below:

- Dermal contact with impacted soils and groundwater;
- Incidental ingestion of impacted soils and groundwater;
- Ingestion of groundwater;
- Inhalation of intruding soil vapours; and
- Inhalation of site generated dusts and ACMs.

7.4 Potential receptors

The following potential human health receptors identified for the site are summarised in **Table 7-2**.

No realistic ecological receptors have been identified for the site.

Table 7-2: Identified human receptors

	On-site	Off-site
Current Site Use (Commercial Facility)		
Commercial workers	✓	×
Intrusive maintenance workers	✓	✓
Residential properties to the east, south and west of property	×	✓
Recreational ground users to the north	×	✓
Occupants of the school to the west	×	✓
Groundwater users	×	✓
Future Site Use (Assumed Residential)		
On-site residents	✓	×
Construction workers during development	✓	×
Intrusive maintenance workers	✓	✓
Residential properties to the east, south and west of property	×	✓
Recreational ground users to the north	×	✓
Occupants of the school to the west	×	✓
Groundwater users	×	✓

7.5 Potential exposure pathways

On the basis of the available information gathered as part of the PSI, the preliminary CSM in terms of potential source-pathway-receptor linkages is provided in **Table 7-3**.

Table 7-3 potentially complete exposure pathways

PCA	Potentially Impacted Media	Pathway	Receptor	Comment
Former Waste Oil Tank	Soil	Dermal contact	Intrusive maintenance workers	Soil impacts (if any) likely at depth and as such exposure only relevant intrusive works. Exposure risk likely managed through standard occupational, health and safety protocols.
			Construction workers during development	
		Incidental Ingestion	Intrusive maintenance workers	Soil impacts (if any) likely at depth and as such exposure only relevant intrusive works. Exposure risk likely managed through standard occupational, health and safety protocols.
			Construction workers during development	
	Groundwater	Dermal contact and incidental ingestion.	Intrusive maintenance workers	Groundwater is expected to exist at depths greater than 10 m bgl. As such, any dermal exposure or incidental ingestion during intrusive works is not considered realistic.
			Construction workers during development	
			Off-site groundwater users	The nearest registered groundwater bore potentially for extractive purposes is located 390 m south of the site to 80 m depth. As such, dermal contact, incidental ingestion and ingestion of extracted groundwater originating from the site is considered highly unlikely.
		Ingestion	Off-site groundwater users	
	Intruding Vapours	Inhalation	Intrusive maintenance workers	Exposure risk is only relevant to works being undertaken in vicinity of the former waste oil tank. Exposure risk likely managed through standard occupational, health and safety protocols.
			Future on-site residents	Exposure to intruding vapours within residential properties is only relevant to properties that may be constructed directly atop the historic location of the waste oil tank. This is based on the rationale that groundwater is expected to be present at depths greater than 10 m bgl and thus any vapour exposure from migrated groundwater can be deemed incomplete based on CRC CARE screening distances (CRC CARE, 2013).
Demolition Waste associated with Ward A. Coke ash disposal associated with boilers	Soil	Dermal contact and incidental ingestion.	Commercial Workers	Dermal contact and incidental exposure with impacted soils at the site for current occupants is possible. However, exposure

PCA	Potentially Impacted Media	Pathway	Receptor	Comment
potentially located within Ward A. Possible herbicide and pesticide use in the vicinity of Czechowicz House, Heaslip House and Ward A. Fill or soil importation Coal tar bitumen associated with car parking adjacent Ward A.				is considered limited given limited given works are largely office based (within Howards House), with the exception of those undertaking maintenance of site grounds. It is expected that any exposure risk to those undertaking maintenance or gardening works would be limited and likely managed through standard occupational, health and safety protocols.
			Intrusive maintenance workers	Exposure risk likely managed through standard occupational, health and safety protocols.
			On-site residents	If low density housing constructed exposure to impacted surface soils is possible.
			Construction workers during development	Exposure risk likely managed through standard occupational, health and safety protocols.
		Inhalation of dust	Construction workers during development	During development the generation of significant amounts of impacted dust is possible. It is expected that this exposure would be managed through appropriate dust management strategies during development.
			Residential properties to the east, south and west of property	
			Recreational ground users to the north	
			Occupants of the school to the west	
ACMs associated with Czechowicz House, Heaslip House, the Oaks building and Howard House.	Air	Inhalation of asbestos fibres	Construction workers during development	During development the generation of friable asbestos fibres is possible. It is expected that this exposure would be managed through appropriate management strategies during demolition works and any ACMs would be removed from the site.
			Residential properties to the east, south and west of property	
			Recreational ground users to the north	
			Occupants of the school to the west	

8.0 Conclusion

Based on the identified PCAs, it is unlikely any unacceptable risk to human health exists based on the site's current commercial use, providing that any intrusive or maintenance works are undertaken in accordance with standard occupational health and safety protocols.

If the site use is to be changed to low density residential, further investigations are warranted to assess risk to human health associated with the following identified PCAs:

- Waste oil underground storage tank associated with Ward A;
- Demolition Waste associated with Ward A;
- Coke ash disposal associated with boilers potentially located within Ward A.;
- Possible herbicide and pesticide use in the vicinity of Czechowicz House, Heaslip House and Ward A;
- Fill or soil importation; and
- Coal tar bitumen associated with car parking adjacent Ward A.

The identified PCAs are considered as having a low significance or highly localised and are unlikely to preclude the intended future land use.

9.0 References

Coffey Partners International Pty Ltd (July 1998): *Environmental Site Audit Report, Northfield Development, SA, Area 8N: Northern Broadacre*

Department of Environment and Natural Resources (1995): *Hillcrest Hospital Stormwater Infrastructure Assessment, 25 May 1995*

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DEWNR (2019a) Department of Environment, Water and Natural Resources, Nature Maps, https://data.environment.sa.gov.au/NatureMaps/Pages/default.aspx

DEWNR (2019b) Department of Environment, Water and Natural Resources, Groundwater Data Online Database, Government of South Australia, searched 28 August 2018, https://www.waterconnect.sa.gov.au/GD.

DEWNR (2019c) Department of Environment, Water and Natural Resources, Mapland

DEW (2009) Department of Environment and Water**,** Soil Association Map of the Adelaide Reigon

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Golder Associates (1994): Landfill Study, Dry Creek Reserve, Walkley Heights, SA, 21 December 1994.

Nearmap (2009 and 2019) Aerial imagery, https://www.nearmap.com.au/

NEPC (1999) *National Environmental Protection (Assessment of Site Contamination)* Measure 1999, as amended in 2013, National Environment Protection Council

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Rust PPK Pty Ltd (1995): Further Investigation of Potential Environmental Issues and Preliminary Testing at Hillcrest Hospital, Fosters Road, Gilles Plains SA, 28 August 1995**SA EPA (2009)** Site Contamination – Guidelines for the Assessment and Remediation of Groundwater Contamination, South Australian Environment Protection Authority, February 2009.

SA EPA (2019) Section 7 Search

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SA Health (2017) Groves A, Thomson D, McKellar D and Procter N. (2017) The Oakden Report. Adelaide, South Australia: SA Health, Department for Health and Ageing

Safework SA (2019) Dangerous substances search, https://www.safework.sa.gov.au

The News (1953) Start on £1m. Hosptial Scheme at Northfield Tuesday 22 September 1953, page 11, nla.gov.au/nla.news-article130781156

Tonkin & Associates (1999): Lots 351 and 352, Former Hillcrest Hospital, Site Audit Report, 23 July 1999

CRC CARE (2013) Petroleum hydrocarbon vapour intrusion assessment: Australian guidance, CRC CARE Technical Report no. 23, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia.

10.0 Limitations

These conclusions and all information in this Report is provided strictly in accordance with and subject to the following limitations and recommendations:

a. The conclusions and all information in this Report are given strictly in accordance with and subject to the following limitations: This Report has been prepared with the usual care and thoroughness of the consulting profession for the use of the Crown and the SA Government (including Renewal SA) and/or the site contamination auditor and only those third parties who have been authorised in writing by AECOM to rely on this Report.

b. This Report should be read in full. This agreement shall not create any rights or benefits to parties other than to the Crown and the South Australian Government (including Renewal SA) and the Service Provider to the extent permitted by law. Unless the Service Provider's prior written permission has been obtained no party other than the South Australian Government (including Renewal SA and/or the site contamination auditor) shall have the right to rely on the Service Provider's documents or opinions rendered in connection with the services This Report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

c. This Report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by AECOM for use of any part of this Report in any other context.

d. This conclusion is based solely on the information and findings contained in this Report.

e. This conclusion is based solely on the scope of work agreed between AECOM and Renewal SA and described in Section 1.4 ("Scope of Work") of this Report.

f. This Report is dated 30 April 2019 and is based on the conditions encountered during the site investigations conducted, and information reviewed, from 8 April 2019 to 30 April 2019. AECOM accepts no responsibility for any events arising from any changes in site conditions or in the information reviewed that have occurred after the completion of the site investigations.

g. The investigations carried out for the purposes of the Report have been undertaken, and the Report has been prepared, in accordance with normal prudent practice and by reference to applicable environmental regulatory authority and industry standards, guidelines and assessment criteria in existence at the date of this Report.

h. Where this Report indicates that information has been provided to AECOM by third parties, AECOM has made no independent verification of this information except as expressly stated in the Report. AECOM assumes no liability for any inaccuracies in or omissions to that information.

i. AECOM has tested only for those chemicals specifically referred to in this Report. AECOM makes no statement or representation as to the existence (or otherwise) of any other chemicals.

j. Except as otherwise specifically stated in this Report, AECOM makes no warranty or representation as to the presence or otherwise of asbestos and/or asbestos containing materials ("ACM") on the site. If fill has been imported on to the site at any time, or if any buildings constructed prior to 1970 have been demolished on the site or materials from such buildings disposed of on the site, the site may contain asbestos or ACM. Without limiting the generality of sub-clauses (h) and (m), even if asbestos was tested for and those test results did not reveal the presence of asbestos at specific points of sampling, asbestos may still be present at the site if fill has been imported at any time, or if any buildings constructed prior to 1970 have been demolished on the site or materials from such buildings disposed of on the site.

k. No investigations have been undertaken into any off-site conditions, or whether any adjoining sites may have been impacted by contamination or other conditions originating from this site.

l. 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 contamination may have been identified in this Report.

m. Subsurface conditions can vary across a particular site and cannot be exhaustively defined by the investigations described in this Report. It is unlikely therefore that the results and estimations

expressed in this Report will represent conditions at any location removed from the specific points of sampling.

n. A site which appears to be unaffected by contamination at the time the Report was prepared may later, due to natural phenomena or human intervention, become contaminated.

o. Except as specifically stated above, AECOM makes no warranty, statement or representation of any kind concerning the suitability of the site for any purpose or the permissibility of any use, development or re-development of the site.

p. Use, development or re-development of the site for any purpose may require planning and other approvals and, in some cases, environmental regulatory authority approval. AECOM offers no opinion as to whether the current use has any or all approvals required, is operating in accordance with any approvals, the likelihood of obtaining any approvals for development or redevelopment of the site, or the conditions and obligations which such approvals may impose, which may include the requirement for additional environmental works.

q. AECOM makes no determination or recommendation regarding a decision to provide or not to provide financing with respect to the site.

r. The ongoing use of the site and/or the use of the site for any different purpose may require the owner/user to manage and/or remediate site conditions, such as contamination and other conditions, including but not limited to conditions referred to in this Report.

s. To the extent permitted by law, AECOM expressly disclaims and excludes liability for any loss, damage, cost or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this Report. AECOM does not admit that any action, liability or claim may exist or be available to any third party.

t. Except as specifically stated in this section, AECOM does not authorise the use of this Report by any third party.

u. It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

Appendix A

Figures

AECOM

N

0 100 200 m

Legend

Site Boundary

Figure 1

SITE LOCATION PLAN

OAKDEN MENTAL HEALTH FACILITY RENEWAL SA

P:\606X\60603737\900_CAD_GIS\920_GIS\FIGURES\MXD\60603737-001.mxd Date Saved: 15/04/2019

AECOM

N

0 20 40 m

Legend

- Site Boundary
- Appproximate location of Ward A Building
- Anomolous mounding

PCAs

1. Waste Oil UST located in vicinity of Ward A
2. Demolition Waste associated with Ward A
3. Coke Ash Disposal (Potentially wide spread)
4. Domestic Incineration and Boilers
5. Herbicide and Pesticide Use
6. ACMs present in Howards House, The Oaks, Heaslip House and Czechowicz House
7. Coal Tar Bitumen
8. Fill or Soil Importation

Figure 2

SITE FEATURES PLAN

OAKDEN MENTAL HEALTH FACILITY RENEWAL SA

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AECOM

N

0 20 40 m

Legend

- Site Boundary
- Appproximate location of Ward A Building
- Anomolous mounding

PCAs

1. Waste Oil UST located in vicinity of Ward A
2. Demolition Waste associated with Ward A
3. Coke Ash Disposal (Potentially wide spread)
4. Domestic Incineration and Boilers
5. Herbicide and Pesticide Use
6. ACMs present in Howards House, The Oaks, Heaslip House and Czechowicz House
7. Coal Tar Bitumen
8. Fill or Soil Importation

Figure 2

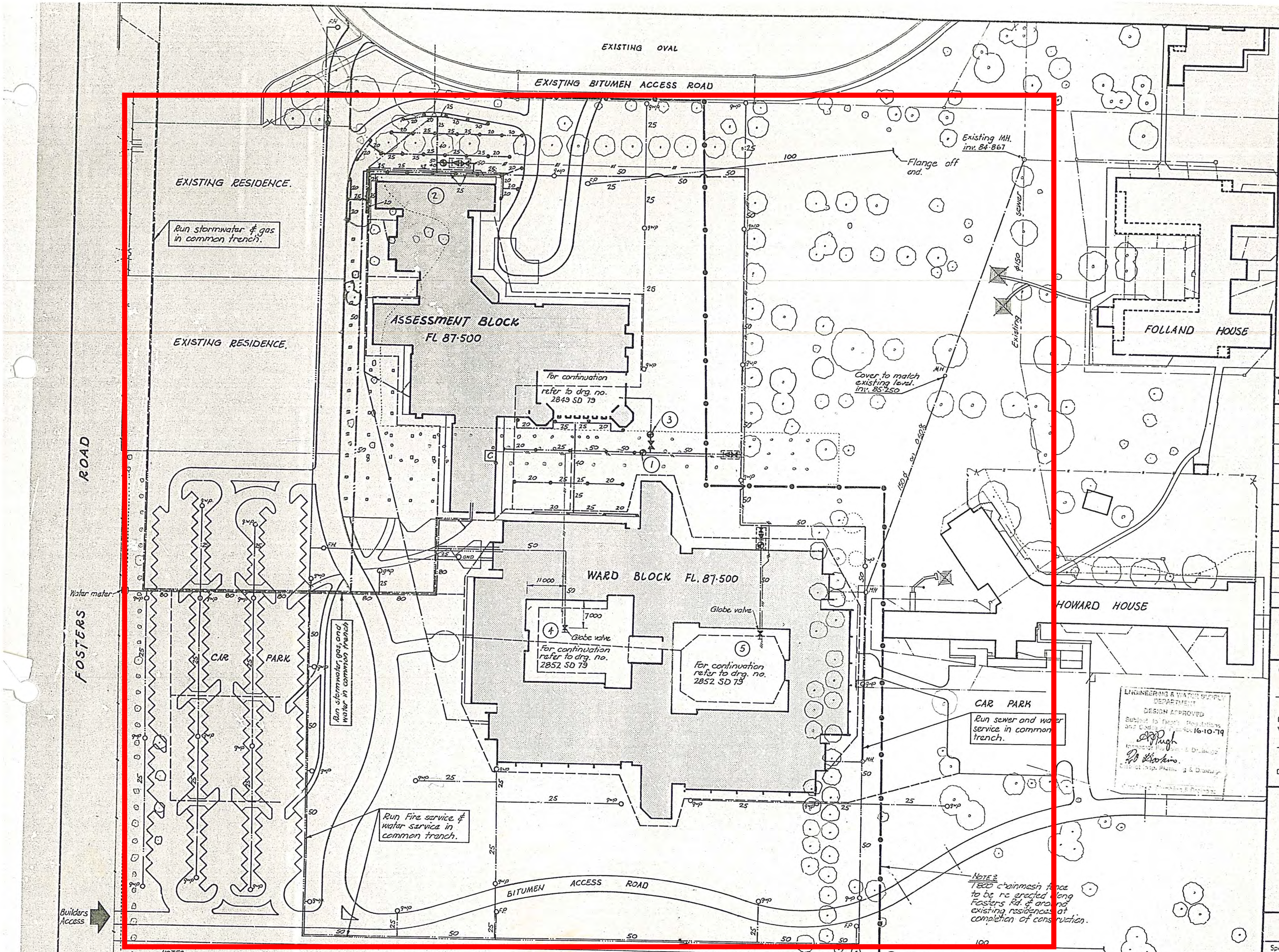
SITE FEATURES PLAN

OAKDEN MENTAL HEALTH FACILITY RENEWAL SA

P:\606X\60603737\900_CAD_GIS\920_GIS\FIGURES\MXD\60603737-002.mxd Date Saved: 17/04/2019

Appendix B

Historical Site Plans


EXISTING OVAL
EXISTING BITUMEN ACCESS ROAD
EXISTING RESIDENCE.
Run stormwater & gas in common trench.
EXISTING RESIDENCE.
ASSESSMENT BLOCK FL 87·500
For continuation refer to drg. no. 2849 SD 79
Existing MH. inv. 84·867
Flange off end.
Cover to match existing level. inv. 85·250
FOLLAND HOUSE
WARD BLOCK FL. 87·500
For continuation refer to drg. no. 2852 SD 79
For continuation refer to drg. no. 2852 SD 79
Globe valve
HOWARD HOUSE
CAR PARK
Run sewer and water service in common trench.
CAR PARK
Run stormwater, gas, and water in common trench
FOSTERS ROAD
Water meter
Builders Access
Run Fire service & water service in common trench.
BITUMEN ACCESS ROAD
Note: Temp chainmesh fence to be re erected along Fosters Rd. & around existing residences at completion of construction.
Flange off end.
LEGEND
Stormwater drains
Sewer
Fire Services
Water
Gas
1800 chainmesh fence (To define Builders Area.)
Sprinklers, refer to performance chart for details
Electric solenoid valve
Isolating valve - globe type (refer to specification for details.)
Reflux valve - spring type. (refer to spec. for details)
Encircled numbers indicate station layout.
Automatic sprinkler controller.
Controller wiring (refer notes.)

NOTES

For details of stormwater & sewer drainage refer to plans 2833 - 2837 SD 79

For details of garden watering services " " " 2843 - 2847 SD 79

For details of fire service, gas services, mains water services refer to Mechanical drgs.

For common trench detail refer to plan no. 2848 SD 79.

ENGINEERING & WATER SUPPLY DEPARTMENT
DRAIN DESIGN APPROVED
Venting & Plumbing Subject to Dept. Regulations & Code of Practice
Supervising Designing Engineer (Sewerage)
Date 11.10.79.

NOTE: REFER DRG. No. 2852 SD 79 FOR WATER RETICULATION NOTES.

Letter	REVISIONS	Date	Chkd	Appd
	348·CE·74, 345·CE·74, 2850·SD·79, 2849·SD·79, 2852·SD·79			

No.	ASSOCIATED DOCUMENTS				
Arch	T. Harris	31/10/79	Surv		/ /
Civil		/ /	Design		/ /
Elect		31/10/79	Drawn	CRO	7/8/79
Mech		31/10/79	Chkd	DKM.	/ /
Struct		31/10/79	Design Leader		/ /

Setting out of work is the responsibility of the contractor. All dimensions to be taken from the job. Discrepancies to be reported immediately to the Director. This drawing shall be read in conjunction with the specification.

Contractor

Date

Witness

Date

Branch Head

Date 8·11·79

Section Head

Date 6/11/79

HILLCREST HOSPITAL

PSYCHOGERIATRIC WARDS

FOSTERS ROAD,

HILLCREST 5086

- COORDINATED SERVICES PLAN

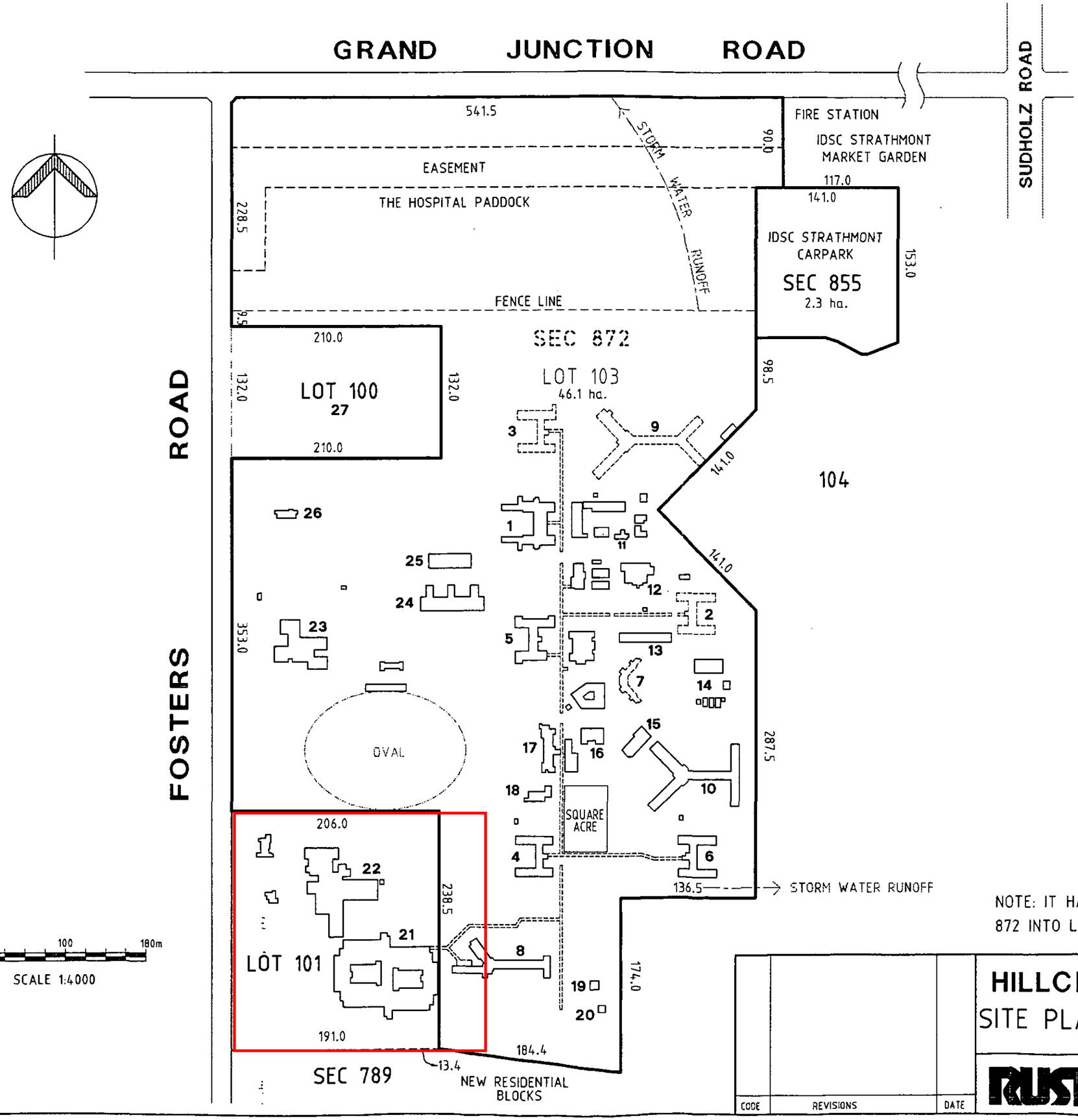
SOUTH AUSTRALIAN GOVERNMENT
PUBLIC BUILDINGS DEPARTMENT

Specification Number

Scales 1:500

Sheets in set 23 of 24

2850 SD 79



LEGEND

DEMOLISHED BUILDING

COVERED WALKWAY

KEY TO BUILDINGS

1 Ward 1
2 Ward 2
3 Ward 3
4 Ward 4, Dibden House
5 Ward 5, Robertson House
6 Ward 6, Anderson House
7 Ward 7, Repatriation
8 Ward 8, Apps House
9 Ward 9, Davenport House
10 Ward 10, Howard House
11 Mortuary
12 Boiler/Incinerator House
13 Occupational Therapy Building
14 Garage/Garden Complex
15 Canteen
16 Salter Hall
17 Administration
18 Chapel
19 Groundwater Pump
20 Telecom Radio Tower
21 Psychogeriatric Ward
22 Mason House
23 Litchfield House
24 Industrial Therapy (IT) Workshop
25 Linen Sorting
26 Barnett House
27 James Nash House

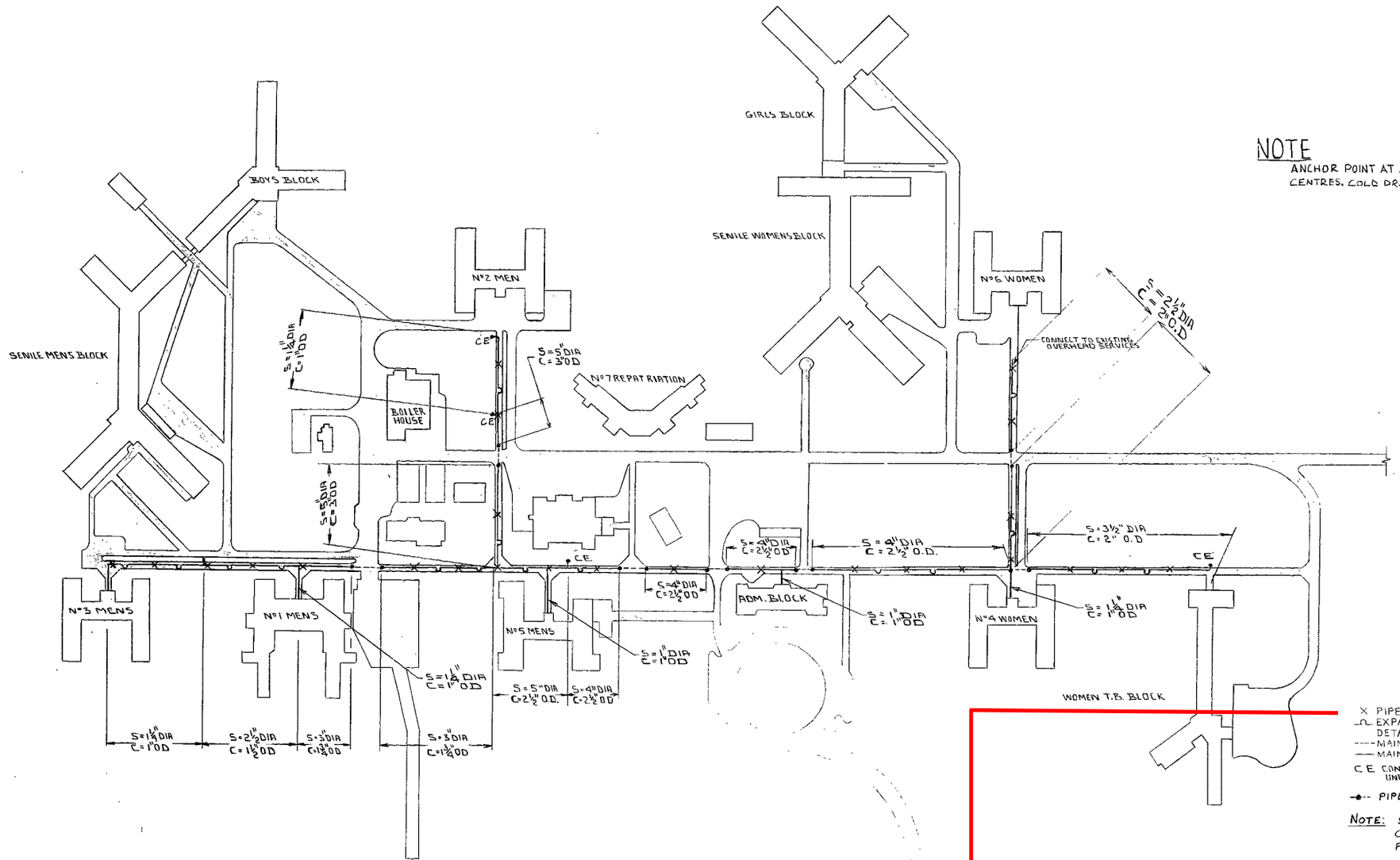
NOTE: IT HAS BEEN PROPOSED TO DIVIDE SECTION 872 INTO LOTS 100, 101, 102 AND 103

CODE	REVISIONS	DATE

HILLCREST HOSPITAL
SITE PLAN - OCTOBER 1994

CHECKED	UP
DRAWN	JD
DATE	22.9.94
DRAWING No.	27F306A/01/0

RUST PPK
100 NORTH TCE., ADELAIDE
STH.AUST., ADELAIDE 5000
TELEPHONE (08) 2125733



NOTE

ANCHOR POINT AT APPROX 75ft CENTRES. COLD DRAW TO BE ¾"

LEGEND

- X PIPE ANCHOR LOCATION
- EXPANSION LOOP (SEE DETAIL)
- ---- MAINS BELOW GROUND LEVEL
- —— MAINS WITHIN COVERED WAYS
- C.E. CONNECT TO EXISTING UNDERGROUND SERVICES
- —●— PIPE DROPPER OR RISER

NOTE: STEAM LINES ONLY SHOWN. CONDENSATE LINES TO FOLLOW SAME ROUTE.

No.	ASSOCIATED DOCUMENTS

This drawing shall be read in conjunction with the specification.

Letter	REVISION	Date	Chkd.	Appd.

ARCH.	L.B.	F.B.	
CIVIL	Surv.		
ELEC.	Drn.		
MECH.	Tcd.		
STR.	Chkd.		
AGREED BY	Sup. Surv'r.		

Contractor

Date

Witness

Date

Principal Engineer — Date 25-2-70

Supervising/Designing Engineer — Date 25-2-70

Drn. LK/GS

Chkd. 19/2/70

Appd. 19/2/70

S.A. GOVERNMENT, PUBLIC BUILDINGS DEPARTMENT

HILLCREST HOSPITAL

PIPING LAYOUT

Sheet No. 1 of 4

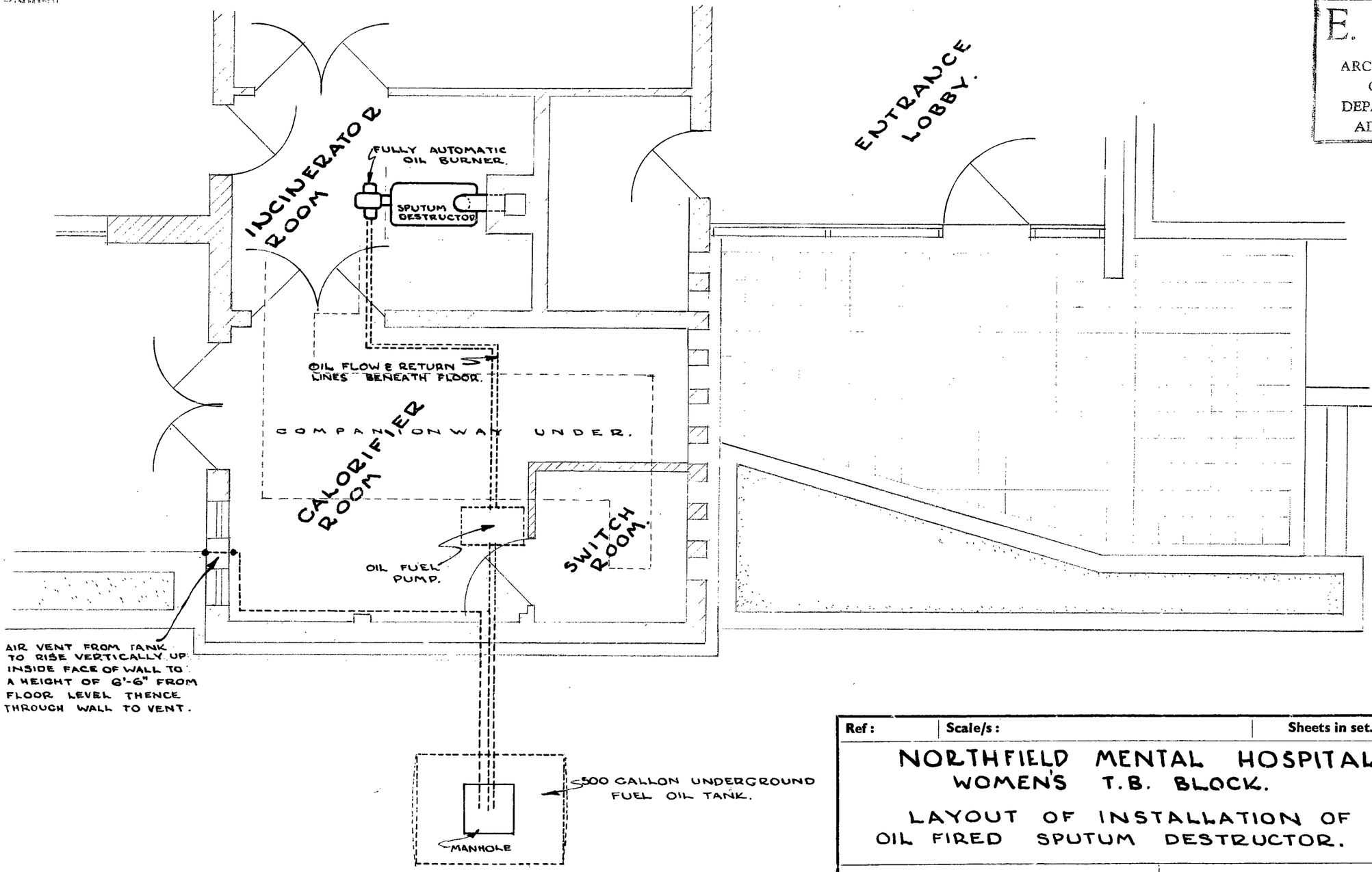
Scale/s 1" = 100'-0"

233 ME70

690-5.69 2562 AS5 20" × 30"

ENGINEERING DESIGN BRANCH

E. R.
ARCHITECT-IN-CHIEF'S DEPARTMENT, ADELAIDE.



Ref:	Scale/s:	Sheets in set.	Sheet No.

NORTHFIELD MENTAL HOSPITAL.
WOMEN'S T.B. BLOCK.
LAYOUT OF INSTALLATION OF OIL FIRED SPUTUM DESTRUCTOR.

Contractor

Witness

Architect-in-Chief

day of , 195

Designed	D. Engr. 1/3/55	M. Engr. A.N.E 1/3/55	Chief Mech. & Elec. Eng.
Drawn 21/2/55			
Checked	E. Engr.		
Approved			

1/3

E 52-55

ARCHITECT-IN-CHIEF'S DEPARTMENT, ADELAIDE

Appendix C

Site Photographs

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
1.

Description:
Site western boundary form north west corner of site.

Fosters Road to right of photo.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
2.

Description:
Site southern boundary from south west corner of site.

Residential properties visible adjacent.

Site Name: Former Oakden Older Person Mental Health Facility	**Site Location:** 200-202 Fosters Road Oakden
Plate No. 3. **Description:** Site northern boundary from north-east corner of site. Recreational sports ground and open drain visible to right of photo.	

Site Name: Former Oakden Older Person Mental Health Facility	**Site Location:** 200-202 Fosters Road Oakden
Plate No. 4. **Description:** Site eastern boundary. Shed C visible in foreground. Raised earth visible left side of photo in the former location of Ward A. Residential visible beyond boundary.	

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
5.

Description:
Anomalous mounding in the east of site in the location of former Ward A.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
6.

Description:
Path leading to small memorial garden in north-east corner of the site.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden
Plate No. 7. **Description:** Asphalt car park in south-east of the site.	

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden
Plate No. 8. **Description:** Smaller car park adjacent eastern boundary and historically serving Ward A.	

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
9.

Description:
Typical tress encountered at the site.

The Oaks building located to the left.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
10.

Description:
Cedar College and residential properties located to the west of the site across Fosters road.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden
Plate No. 11. **Description:** Cracking in surface soils evident over much of the site.	

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden
Plate No. 12. **Description:** Imported sand fill present in north-west corner of site.	

Site Name: Former Oakden Older Person Mental Health Facility	**Site Location:** 200-202 Fosters Road Oakden
Plate No. 13. **Description:** Eastern side of Czechowicz House	

Site Name: Former Oakden Older Person Mental Health Facility	**Site Location:** 200-202 Fosters Road Oakden
Plate No. 14. **Description:** Western side of Czechowicz House	

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
15.

Description:
Western side of Heaslip House.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
16.

Description:
Eastern side of Howards Building.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
17.

Description:
Northern side of Howards Building.

White paneling with asbestos warning stickers.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
18.

Description:
Howards Building

Flammable gas storage room located adjacent Plant Room A.

Interior flammable gas Storage.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
19.

Description:
Howard House

Interior Plant Room A.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
20.

Description:
Howards House

Interior Plant Room B.

Large tanks no longer in use. Likely associated with historical boiler.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
21.

Description:
Howards House

Interior Plant Room B and Boiler Room.

Access to foundations.

Boiler within Boiler Room appears to have been removed.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
22.

Description:
Southern side of The Oaks building.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
23.

Description:
The Oaks.

Plant Room C.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
24.

Description:
The Oaks.

Southern side of the Oaks building.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road, Oakden

Plate No.
25.

Description:
The Oaks building.

Eastern side of Oaks building.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
26.

Description:
The Oaks building.

Eastern side of Oaks building.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
27.

Description:
The Oaks building.

Northern side of Oaks building.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
28.

Description:
Shed A

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
29.

Description:
Shed B

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
30.

Description:
Shed C

Interior of Shed C showing miscellaneous office equipment, nursing equipment and two gas bottles.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
31.

Description:
Transformers located to the east of Howards House.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
32.

Description:
Tower to the east of the Oaks building.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
33.

Description:
Mushroom style vent's surrounding buildings.

Site Name: Former Oakden Older Person Mental Health Facility	Site Location: 200-202 Fosters Road Oakden

Plate No.
34.

Description:
Hard rubbish adjacent Shed C.

Appendix D

Asbestos Register

Carters
Asbestos Management

- Asbestos Reviews
- Asbestos Management.
- Asbestos Consultancy.
- Asbestos Maintenance.
- Asbestos Training.
- Asbestos Safety Products.

ASBESTOS REGISTER REVIEW

REGISTER NO.:	**AS 1213**
FOR THE PROPERTY AT:	**NMHS - OPMHS Oakden (Asset Number 03323) 200 Fosters Road Oakden, S.A.**
CLIENT:	**Northern Adelaide Local Health Network, SA Health**
CONSULTANT:	**Dan Jovanovic**
DATE INSPECTED:	**14/09/2017**

CARTER CORPORATION PTY. LTD.
42 Trembath Street, Bowden, SA 5007
Ph. (08) 8346 2999 Fax. (08) 8346 3888
Email: enquiries@cartercorporation.com.au
Web: www.cartercorporation.com.au
ABN 58 007 881 763

CONTENTS

1. INTRODUCTION

Carter Corporation Pty Ltd (Carters Asbestos Management) was requested to conduct a review of the existing asbestos register to determine the condition of asbestos containing materials (ACMs) previously identified within the asbestos register at the site/address referred to and contained within this document.

The review is a visual, non-destructive inspection of previously identified asbestos materials listed in the original register and is not a full inspection of the building. All previous conditions, limitations and recommendations apply.

It is strongly recommended that this report be reviewed prior to any change of use, occupancy or other activity which may affect the accessibility of any ACMs within the areas surveyed. Such reviews should only be conducted by a competent person. It is recommended that further investigations will be required using destructive surveying and sampling techniques prior to any planned refurbishment or alterations which affect the fabric of the building.

This report should be read in its entirety.

This report is limited to asbestos containing materials only and their associated risks. Reference may be made within this document to other materials such as but not limited to Synthetic Mineral Fibre (SMF); lead paints etc but no assessment of these have been made.

In accordance with the Regulations, ACMs which have been visually identified (i.e. not sampled or not referenced to a specific sample) should be presumed to contain asbestos, unless sampled to prove otherwise.

The objective of the survey was to, as far as reasonably practicable, locate, identify and access and where possible, photograph and quantify the accessible ACM present within the scope of the survey and to present the information collected in a way which allows the duty holder to manage the risks arising from those materials.

2 SCOPE of WORK

To undertake the inspection as required, the following scope of work was undertaken;

- A site specific risk assessment prior to the survey was undertaken.
- Re-Inspection of the existing ACM on the site was carried out, their location, type, quantity, condition and stability were documented.
- An assessment of the materials potential to release fibres and recommendations to minimise or manage the risk was noted.
- Photographs were taken (where required) to aid the item identification and condition.
- Signage requirements were noted.
- Samples (where agreed) taken and submitted to a NATA laboratory for analysis to qualify asbestos fibre content.

3 LIMITATIONS

Whilst the surveyors make every reasonable effort, Carter Corporation cannot guarantee that all Asbestos Containing Materials have been identified and that the survey and sample results are definitive. It is not possible to guarantee that every source of ACM at the site has been identified and is recorded in the Register for the property. The survey should not be interpreted as absolute, without extensive invasion of the structure of the building. Some ACM's could be present in the building that may only be discovered if the building is subject to alteration, refurbishment, maintenance or demolition, and in areas which were impractical to assess, access or were otherwise concealed during this survey.

For the purpose of creating a Register, building owners are not required to dismantle parts of the building or plant to locate Asbestos Containing Materials; the intent of the register is aimed at identifying any significant risk to persons on a day-to-day basis. If it is the intention to demolish or alter such areas, further review and investigation/sampling is required. If during the conduct of any building works conditions change or concealed/unknown ACM's are detected, uncovered or suspected to be present, revised safe work practice is to be implemented immediately.

In general, it may be impossible to locate all asbestos containing materials during the course of a visual inspection. Physical constraints upon an inspection include, but are not limited to, restrictions on access to lift shafts / motor rooms, air conditioning ductworks, During an inspection, there is a need to avoid damage to client's property (e.g. through sample taking) and to minimise disruption (e.g. dismantling equipment), and inconvenience to occupants. The scope of the services was defined by the requests of the client, by the time and budgetary constraints imposed by the client, and the availability of access to the site.

The inspection was carried out in areas where access was readily available. Unless otherwise indicated floor coverings were not taken up to enable inspection of floor surfaces, access hatch covers were not removed. Equipment in use was not disturbed or opened for the purpose of inspection. Air-conditioning systems, heater banks and associated ductwork has not been inspected.

In some instances asbestos may be located in inaccessible areas of the structure of the building such as wall cavities, beneath floor slabs, or as an integral part of machinery, plant or equipment (pumps, pipe work, boilers, air-conditioning systems, heater banks, ductwork and the like). Buried fibro asbestos pipes, pits or debris contamination may also be discovered upon excavation. Confirmation of lagged pipe work within wall cavities and chased into walls is not possible with a visual inspection. Asbestos that was previously removed from an area may have fallen down cavities due to inadequate removal procedures and clean-up. This should be taken into consideration when any demolition or upgrade work is being done as it is possible that 'residual' ACM's may be present in these areas.

Unless noted otherwise, samples were not taken of products previously known to contain asbestos - "Zelemite" electrical switchboard panels and "Millboard" insulation to wiring (eg - items installed in live electrical situations).

Any references in this report to materials other than asbestos are not to be taken as necessarily accurate, since identification of such materials is not included within the scope of this report. References to "Colorbond", "PVC", "Rockwool", "Gyprock'", etc are intended to be an approximate indication only of the type of material present based on cursory observation. The purpose of including references to such materials is primarily to assist the author in compiling the report and secondly to provide a more descriptive report.

This report is not to be used as a contractual document. No guarantees can be entered into regarding the accuracy or completeness of this report. Measurements and quantities mentioned in this report are approximate only.

A reference in this register to the regulations, a Code of Practice, a Guidance Note or Guideline will be taken as a reference to that document as in force at that time. A reference in this register to the owner of a building will be taken to include a reference to any person appointed by the owner to manage the building on his or her behalf.
Register updates or reviews must be read in conjunction with the original register. It is recommended that these registers be audited at least upon an annual basis, to ensure compliance to the WHS regulations is being maintained. The information contained herein is accurate at the time of printing only. Subsequent updates become the responsibility of the client.

The client must not rely on an inspection or register as indicating that a property is 'Hazardous Material or Asbestos Free'. The register can only be relied upon to show that no asbestos was found (or that only such asbestos was found as was reported to be found) in the course of the inspection.

The findings and recommendations within this register are based upon the state of the site at the time of the survey. The effects of time, manifestation of latent conditions or impacts of future events (weathering, deterioration, scientific knowledge, changes in legislation etc) may render the report inaccurate.

Reliance on Information Provided by Others
Carter Corporation notes that where information has been provided by other parties in order for the works to be undertaken, Carter Corporation cannot guarantee the accuracy or completeness of this information. The client therefore waives any claim against Carter Corporation and agrees to indemnify Carter Corporation for any loss, claim or liability arising from inaccuracies or omissions in information provided to Carter Corporation by the client or third parties.

4 METHODOLOGY

Areas detailed within the register were inspected where accessible in order to determine the findings pertaining to type, condition and extent of the presumed or confirmed asbestos containing materials recorded.
To assess the potential health risk posed by the ACM various information and criteria are recorded. The assist in the interpretation of the Asbestos Register the following detailed explanation is provided.

- **LOCATION – DESCRIPTION;** provides identifier (letter for external and number for internal). The identifier is also shown on any drawing provided with the Register. The description states the room number (if assigned), room name, location of the item and material description.

- **EXTENT;** an approximate extent (not be used for pricing or demolition costing).

- **ACCESSIBILITY;**
  Accessible – the material/item can be easily accessed without any aids or key access.
  Limited access – the material/item can by accessed but requires access via ladder, key access, lifting carpet, etc.
  Inaccessible – the material/item cannot be accessed without damage or demolition i.e. metal encapsulated insulation, material within cavity, sealed door core etc.

- **ASBESTOS ASSESSMENT;** asbestos type (from laboratory analysis) or presumed asbestos content.

- **CONDITION;** provides a description of the material at the time of the survey. It comprises of three components;
  Poor – the material is damaged or severely deteriorated.
  Moderate – the material is generally sound condition but has some signs of deterioration.
  Good – The material is sound with no signs of deterioration
  Sealed – the material has a painted or other material sealing the raw product
  Unsealed – the material is raw or has exposed areas of asbestos product
  Non-friable/bonded – the asbestos fibres are in a stable matrix and cannot be crushed by hand application
  Friable – the asbestos product can be crushed or broken down by hand pressure or is dust/debris

- **SAMPLE NO – VISUAL TEST;** provides the unique sample reference number or informs of a visual identification.

Items listed within the Register as “visual” have not been sampled to confirm an asbestos content. These items have been identified as materials which historically have or can contain asbestos. The presumption made is through various criteria such as but not limited to type of material, age of building, similar products, and the experience of the surveyor. All materials which have been listed as visually identified within this register must be treated as asbestos unless proven otherwise by sample analysis. It is recommended that all materials are sampled in order to qualify.

- **SIGNAGE STATUS;** signage is either visible or not visible.

- **SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS;** has specific notes pertaining to the item with recommendations if required. Within this section there is also information relating to Risk Priority. The information gained from the survey or inspection is used to provide a priority rating and is to be used as part of the Asbestos Management Plan. Refer to Section 7 ‘Risk Score Calculator’ for the risk score matrix used within the Register. The matrix is based upon AS4360.

5 EXAMPLES OF ASBESTOS CONTAINING MATERIALS

(This is not an exhaustive list)

Backing to service riser doors
Bitumen based membrane coverings/flashings
Boiler insulation
Brake linings
Cable trays
Chalkboards
Cooling towers
Door linings
Down pipes and gutters
Duct work flexible fabric connections
Eaves/Verandah linings
Electrical cable insulation/sheathing
Electrical meter backing boards
Exhaust insulation and gaskets
Expansion joints and gaskets in boilers
Facades
Fencing
Fibre cement pipes and flues
Fire blankets
Fire doors - internal core
Firewall partitions
Fuse holder insulation
Heater bank/re-heat units insulation within duct work of air conditioning
Hot water service heat shields
Insulation linings for spark/fire resistance
Kitchen plant and equipment
Laboratory gloves
Laboratory hoods, bench tops, and equipment
Lift motor brakes
Limpet insulation to structural beams & columns
Lost form work
Louvres in windows
Mortar in wall and floor penetrations (fire stop)
Oven door seals
Packers under floor joists (for levelling transportables, etc)
Pipe work gaskets
Putty and tapes in expansion joints, construction mastics
Refractory bricks
Residual contamination on ceiling tiles and grids
Roof cladding
Roofing shingles
Sealants to duct work and other air-conditioning plant and equipment
Sheathing/insulation to wiring
Sheeting to wet areas
Taping compounds (thermal)
Textured paints/coatings
Thermal paper products
Vermiculite insulation/decorative plaster finishes
Vinyl floor (lino) backing material
Vinyl floor tiles
Wall and floor penetrations
Wall cavities
Wall linings/cladding
Window glazing putties/frame caulking

6 DEFINITIONS

Accredited laboratory	A testing laboratory accredited by the National Association of Testing Authorities, Australia (NATA) or a similar accreditation authority, or otherwise granted recognition by NATA, either solely or in conjunction with one or more other persons.
Accessible	In a physical location where building occupants or users might readily access material without use of assistance e.g. asbestos based material used as wall cladding on or outside of equipment in a laboratory etc.
Air monitoring	Airborne asbestos fibre sampling to assist in assessing exposures and the effectiveness of control measures. Air monitoring includes exposure monitoring, control monitoring and clearance monitoring. Note: Air monitoring should be undertaken in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003 (2005)].
Airborne asbestos fibres	Any fibres of asbestos small enough to be made airborne. For the purposes of air monitoring airborne fibres, only respirable asbestos fibres are counted.
Asbestos	The fibrous form of mineral silicates that belong to the serpentine or amphibole groups of rock forming minerals, including Actinolite, Amosite (brown asbestos), Anthophyllite, Crocidolite (blue asbestos), Chrysotile (white asbestos) and Tremolite, or any combination of two or more of these.
Asbestos Abatement	Procedures to control fibre release from asbestos containing materials in a building or to remove it entirely. These may involve removal, encapsulation, repair, enclosure, encasement, operations and maintenance programs.
Asbestos register	The document containing the results/recommendations following a building audit for asbestos materials, commenting on their location, condition and establishment of safe working policies.
Asbestos removal work	Work involving the removal of a) insulation material that consists of or contains asbestos, or other friable asbestos-containing material; or b) an asbestos-cement (fibro) product, or other non-friable asbestos-containing material.
Asbestos work	Any work where, in the course of that work, exposure to asbestos (or any material that consists of or contains asbestos) may occur.
Asbestos Containing Material (ACM)	Means any material, object, product or debris that contains asbestos.
Asbestos removalist	A competent person who performs asbestos removal work. An asbestos removal licence is required for removal of friable ACM and may also be required for non friable ACM removals, check with relevant OHS authorities for requirements.
Asbestos waste	All removed ACM and disposable items used during the asbestos work, such as plastic sheeting used to cover surfaces in the asbestos work area, disposable coveralls, disposable respirators, rags used for cleaning.
Asbestos work area	An immediate area in which work on ACM is taking place. The boundaries of the asbestos work area must be determined by a risk assessment.
Avoid physical and mechanical damage	As far as practicable, limit activities (cutting, drilling, grinding, sanding, breaking, etc) on or adjacent to material such that sufficient damage to release respirable fibres is avoided.
Breathing zone	A hemisphere extending in front of a persons face, with a radius of 300mm from the midpoint of an imaginary line between the ears.

Competent person	A person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill, for the safe performance of the specific work.
Dust and debris	Visible particles, fragments or chunks of material, large and heavy enough to have settled in the work area, that is likely to have originated from ACM.
Friable (Asbestos)	Asbestos containing material which, when dry, is or may become crumbled, pulverised or reduced to powder by hand pressure.
Hazard	Any matter, thing, process or practice that may cause death, injury, illness or disease.
Inaccessible areas	Areas which are difficult to access, such as wall cavities and the interiors of plant and equipment.
Limited Access	Requiring some assistance or equipment to allow access e.g. requiring a ladder or lifting of ceiling tiles or keys to normally locked cupboard, room etc.
Monitor Condition	Carry out regular general observation of condition of material to note any changes.
NES	National Exposure Standard
N.O.H.S.C.	The National Occupational Health and Safety Commission (Government Body).
Organic fibre	Fibres such as but not limited to cellulose, wool, cotton
Person with control	In relation to premises, a person who has control of premises used as a workplace. The person with control may be: a The owner of the premises b A person who has, under any contract or lease, an obligation to maintain or repair the premises c A person who is occupying the premises d A person who is able to make decisions about work undertaken at the premises, or An employer at the premises
Personal Protective Equipment	Equipment and clothing that is used or worn by an individual person to protect themselves against, or minimise their exposure to, workplace risks.
Register Controller	A building owner or designated representative who is responsible for the asbestos register and implementation of a hazard management plan.
Risk	The likelihood of a hazard causing harm to a person. In this instance risk relates to illness or disease arising from exposure to Airborne Asbestos Fibres.
SMF	Synthetic Mineral Fibre
Stable	Condition good, posing minimum risk to health.
Unstable	Condition poor, posing significant risk to health.
Work	Any activity, physical or mental, carried out in the course of a business, industry, commerce, an occupation or a profession.
Worker	A person who does work, whether or not for reward or recognition.
Workplace	Any place where a person works.

7 RISK SCORE CALCULATOR

Consequence or Impact

Rating	Descriptor	Example Detail Description
1	Insignificant	No illness will result as asbestos is stable, therefore there is little likelihood of inhaling fibres above normal ambient levels.
2-3	Minor	Local fibre release only and in amounts and fibre size that are unlikely to cause latent asbestos related illness
4-6	Moderate	Asbestos may be unstable and could release fibres in the amount and size that may cause latent asbestos related illness
7-8	Major	Asbestos is unstable and will release fibres in the amount and size that will cause latent asbestos related illness
9	Catastrophic	Asbestos is highly friable and unstable, fibres will be released in size range and amount that are highly likely to cause latent asbestos related illness

Likelihood of Exposure

Rating	Descriptor	Description
9	Almost Certain	Is expected to occur in most circumstances – i.e. people regularly in the vicinity.
7-8	Likely	Will probably occur in most circumstances.
4-6	Possible	Might occur at some time.
2-3	Unlikely	Could possibly occur at some time but is unlikely.
1	Rare	May occur only in exceptional circumstances.

Risk Calculator

		Consequence or Impact				
		9	7-8	4-6	2-3	1
Likelihood	9	Extreme	Extreme	Extreme	High	High
	7-8	Extreme	Extreme	High	High	Medium
	4-6	Extreme	Extreme	High	Medium	Low
	2-3	Extreme	High	Medium	Low	Low
	1	High	High	Medium	Low	Low

Risk **Priority with recommended action**

Extreme **P1** – Restrict access and isolate material immediately. Plan for removal as soon as practicable (less than 1 month). The identified material presents an immediate occupational/environmental risk in its present condition.

High **P2** – Limit access as an interim measure and identify for planned removal (less than 3 months). The identified material presents a potential occupational/environmental risk in its present condition.

Medium **P3** – Identify for removal where maintenance or refurbishment may cause disturbance of the material. Treat material (make safe, seal) to prevent potential fibre release as an interim measure.

Low **P4** – Leave in situ and reassess condition on at least an annual basis as recommended or as otherwise required by current WHS Regulations. Consider removal when maintenance or refurbishment may cause disturbance of the material. The identified material presents a low occupational/environmental risk in its present condition unless acted upon.

8 REFERENCE

ACT	**Work Health and Safety Act 2011** **Work Health and Safety Regulation 2011**
NSW	**Work Health and Safety Act 2011** **Work Health and Safety Regulation 2011**
NT	**Work Health and Safety (National Uniform Legislation) Act 2011** **Work Health and Safety (National Uniform Legislation) Regulations 2011**
QLD	**Work Health and Safety Act 2011** **Work Health and Safety Regulation 2011**
SA	**Work Health and Safety Act 2012** **Work Health and Safety Regulation 2012**
TAS	**Work Health and Safety Act 2012** **Work Health and Safety Regulation 2012**
VIC	**Occupational Health and Safety Act 2004** **Occupational Health and Safety Regulations 2017 Div 5**
WA	**Occupational Safety and Health Act 1984** **Occupational Safety and Health Regulations 1996**
Codes of Practice	**How to Manage and Control Asbestos in the Workplace** **How to Safely Remove Asbestos**

Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003 (2005)]

STATE AND TERRITORY WORK HEALTH AND SAFETY AUTHORITIES;

ACT	**Website**: www.accesscanberra.act.gov.au **Email**: via website enquiry **Telephone:** (02) 6207 3000
NSW	**Website:** www.workcover.nsw.gov.au **Telephone:** 13 10 50
NT	**Website:** www.worksafe.nt.gov.au **Email:** ntworksafe@nt.gov.au **Telephone:** 1800 019 115
QLD	**Website:** www.worksafe.qld.gov.au **Telephone:** 1300 362 128
SA	**Website:** www.safework.sa.gov.au **Telephone:** 1300 365 255
TAS	**Website:** www.worksafe.tas.gov.au **Email:** wstinfo@justice.tas.gov.au **Telephone:** 1300 366 322
VIC	**Website:** www.worksafe.vic.gov.au/ **Email:** info@worksafe.vic.gov.au **Telephone:** 1800 136 089
WA	**Website:** www.commerce.wa.gov.au/worksafe **Telephone:** 1300 307 877 **Part of the WA Department of Commerce**

Appendix A – ASBESTOS REGISTER

REGISTER: AS 1213 **DATE: 14/09/2017**

ADDRESS: NMHS-OPMHS Oakden-200 Fosters Rd Oakden, SA **NEXT REVIEW RECOMMENDED: 09/2018**

BUILDING – Czechowicz, Heaslip, Makk, McLeay, Zweck, Clements and Howard Houses

2017 Asbestos Register Review –
A copy of the most recent register review was located in the reception desk at the Oaks.

This review was based upon conducting a re-inspection of the identified asbestos containing materials / products listed within the original register. A copy of this report was provided on behalf of the client for the purpose of conducting the review inspection. This current review should be kept with the existing register to provide a complete report. Where applicable, sample results and presumptions have been carried forward from information provided in these original reports, other than samples (where necessary) taken directly by a Carters Asbestos Management Consultant. It is noted that Carters have not completed a new register inspection on this property.

The Review indicated that the majority of products identified throughout the site present a low risk of exposure to airborne fibres to personnel, due to the stability and / or location of the asbestos containing materials (ACM's), provided that the materials are not disturbed or 'worked upon' (i.e. cut, sawn, drilled, sanded etc.). However, the following items were identified at the site which were noted to be in a damaged condition, or present a moderate, high or extreme risk to the occupants, and should be identified for removal or remedial action as soon as is practicable;

It is recommended to qualify the condition and extent of internal asbestos items to Czechowicz House, Heaslip House as no keys provided/noted no safe access provided to inspect these areas. Heaslip House – Items 5.3.1, 5.3.2, 5.3.3, 5.4.2 – Monitor condition of peeling paint for further deterioration, access with caution.

Further investigations will be required prior to any planned demolition, refurbishment or alterations which affect the fabric of the building. This is a regulation requirement for any building constructed prior to 31/12/2003. Further investigations may also be required upon excavation of soils if ACM is detected or suspected to be present.

The site area contained various gaskets, friction materials and HRC fuses with the potential to contain asbestos if manufactured prior to 31/12/2003 and particularly if not manufactured in Australia and internationally imported. It is recommended to obtain Manufacturers data sheets to provide evidence of non-asbestos gaskets and friction materials such as brake pads, blocks and clutch facings. Note that these spares are likely to be installed in plant and equipment in-situ and in operation and could not be qualified / quantified throughout the building.

AMP (Asbestos Management Plan) Review
A copy of the most recent Asbestos Management Plan (AMP) was not available / located on-site, recommend client ensure that a copy is made available on-site as required by the regulations.
The principles of the Asbestos Management Plan (AMP) have not changed from the creation / implementation of the original document.

4th November 2016 – CC site visit to complete make safe recommendations per below. Refer to Certificate of Completion attached in appendix 'D'.

2016 Asbestos Register Review –
A copy of the most recent register review was located in Reception.
A copy of the most recent register was not located on site, it is recommended a copy be made available.
The Review indicated that the majority of products identified throughout the site present a low risk of exposure to airborne fibres to personnel, due to the stability and / or location of the asbestos containing materials (ACM's), provided that the materials are not disturbed or 'worked upon' (i.e. cut, sawn, drilled, sanded etc.). However, the following items were identified at the site which were noted to be in a damaged condition, or present a moderate, high or extreme risk to the occupants, and should be identified for removal or remedial action as soon as is practicable;

- Item 'HEASLIP HOUSE, Section 5.3 – 5.3.1. External' – Battens loose and missing, debris visible. (P3)

Signage - A general awareness sign was installed at the time of the inspection as a minimum to create Asbestos Register awareness, additional signage is recommended as indicated within this document. Changes were made this audit to revert back to the original register number system.

AMP (Asbestos Management Plan) Review
A copy of the most recent Asbestos Management Plan (AMP) was not available / located on-site, recommend client ensure that a copy is made available on-site as required by the regulations.
The principles of the Asbestos Management Plan (AMP) have not changed from the creation / implementation of the original document, the following changes were noted upon this review;
- Change of Asbestos Management Plan Controller.

2015 Review Notes
A copy of the most recent register review was located in reception.
An Asbestos Management Plan (AMP) was created for this site to assist in the management of recommendations made within this document.
The Review indicated that the products identified throughout the site present a low risk of exposure to airborne fibres to personnel, due to the stability and / or location of the asbestos containing materials (ACM's), provided that the materials are not disturbed or 'worked upon' (i.e. cut, sawn, drilled, sanded etc.).

2013 Review Notes
A copy of the most recent register review was located in Administration building.
The Review indicated that the products identified throughout the site present a low risk of exposure to airborne fibres to personnel, due to the stability and / or location of the asbestos containing materials (ACM's), provided that the materials are not disturbed or 'worked upon' (i.e. cut, sawn, drilled, sanded etc.).
AMP - It is recommended an Asbestos Management Plan (AMP) be developed for this site to assist in the management of recommendations made within this document.

2013 Notes
18/19 May 318m^2 Vinyl sheet removed from Howard House. Areas: Large Group room, T/L office, G11, 12, 22, 23, 21, 20, 19, 16 & Williams Day Centre. Note that vinyl sheet remains under central cupboards and partition walls. Access with caution.

2012 Audit Notes
A copy of the most recent register audit was located in the Administration office.

2012 Audit Notes
A copy of the most recent register audit was located in the Administration office.

2011 Audit Notes
Zweck and Clements house names have been swapped around 2010 per client's instructions due to site reorganization.
General awareness signs visible at main entries to all buildings and in plant areas.

Refer to previous updates regarding historical information;

2003 Audit Notes
This annual update was based upon information contained in 'Rust PPK' August 1999 register and consequent updates. Inspection was carried out only to asbestos items listed in this original register, which may not disclose all asbestos within the building. Refer general notes below and Carter Corp. standard register kit for all conditions / limitations of inspection.
During inspection a site copy of the register was located Oakden reception desk.
Recommend qualify air conditioning with mechanical services contract to assess the possibility of heater bank units and associated "Millboard" asbestos duct lining. Duct lining to be assessed under asbestos conditions.
General awareness signs visible at main entries to buildings and in plant areas.
A general awareness sign was visible on the switchboard cabinet of Czechowicz House and Heaslip House at time of the inspection.
Adequate caution signs have been installed throughout the site warning of asbestos containing materials.
No access for inspection (unless noted otherwise) to inaccessible areas, such as - Internal of plant / equipment / air-conditioning ductwork / heater banks, internal of hot water service units, service conduits and pits, wall and column cavities, cable and pipe-work chases, above flush panel ceilings, underground services, beneath floor coverings and under floor spaces etc. Specifically no inspection has been conducted to the internal of air-conditioning systems to identify the extent / location of any heater bank units (if any). As this is an area that is inaccessible and may contain an asbestos insulation, it is recommended that the client confirm the extent and location of any heater-bank units within the ductwork in conjunction with a mechanical services contractor. If heater-banks are detected, they are to be inspected only under asbestos conditions, recommend sample of insulation lining be taken to confirm content and revise recommendations according to the findings.
Recommend treat all suspect materials as asbestos containing when carrying out works. Material can be sample analysed upon major works to confirm content.
Register controller to ensure access / maintenance form completed and safe work procedure established in accordance with the code of practice prior to commencing any works on asbestos containing materials. Access/maintenance section inserted for use.

All works are to be carried out in accordance with the OHS&W regulations and specific “Codes of Practice”.
It is recommended to wear suitable respiratory protection when entering all ceiling and confined spaces as a minimum pre-caution.
Access these areas with caution as may contain suspect asbestos containing materials.
If any unknown / undetected materials encountered, consult the register controller, treat as suspect asbestos containing and implement safe work procedure.
It is possible upon building works/demolition to encounter unidentified or undetected asbestos material. Access with caution, consult register controller and implement safe work procedure.

PREVIOUS REGISTER / UPDATE INSPECTION NOTES –

The original register inspection noted the following: At the request of Greg Slow a sample of the vinyl sheet flooring was taken from the Surgery within McLeay House.
Refer to facsimile from I.J.W. Refrigeration & Air conditioning (23/09/2004) for heater bank qualifications.
General awareness signs visible at main entries to buildings and in plant areas.
A general awareness sign was visible on the switchboard cabinet of Czechowicz House and Heaslip House at time of the inspection.
Adequate caution signs have been installed throughout the site warning of asbestos containing materials.
Recommend treat all suspect materials as asbestos containing when carrying out works.
Material can be sample analysed upon major works to confirm content.
Register controller to ensure access / maintenance form completed and safe work procedure established in accordance with the code of practice prior to commencing any works on asbestos containing materials.
Access/maintenance section inserted for use.

General Notes

- No inspection carried out (unless specifically noted otherwise) to inaccessible areas and items such as - Internal of plant / equipment / air-conditioning ductwork / heater banks, ductwork mastic, electrical and service components such as internal of hot water service units, switch components, behind electrical panels, to porcelain electrical fuse holders, oyster type light fittings, service conduits and pits, wiring and cable trays and risers. No inspection is carried out to pipe-work chases, wall and column cavities, above flush panel ceilings, underground services, beneath current floor coverings / under floor spaces, window and control joint putty, lost formwork and floor / beam packers etc.
- Asbestos containing materials may be part of the above items and as a ‘visual only / non-destructive’ inspection has been performed it is recommended to access these items with caution if working on or in the vicinity of, using an asbestos safe work method as a pre-caution when disturbing or dismantling these materials. Should asbestos or suspected asbestos containing materials be detected then consult register controller and revise work methods accordingly.
- Specifically no inspection has been conducted (unless otherwise stated) to the internal of air-conditioning systems to identify the extent / location of any heater bank units (if any). As this is an area that is inaccessible and may contain an asbestos insulation, it is recommended that the client qualify air conditioning heaterbank locations (whether redundant or operational) with their nominated mechanical services / air-conditioning contractor. If heater-banks are detected, they are to be inspected only under strict asbestos conditions. Recommend engage a competent person (according to the WHS Regulations) to assess, in particular, the possibility of "Millboard" type asbestos lining to the internal of the ductwork, and to instigate hazard management to minimise the potential for disturbance within the duct whilst accessing, assessing, and/or sampling. All work to be in conjunction with the mechanical services contractor who can locate possible additional units, and isolate and dismantle the “live” heaterbank unit(s) to enable access within the units for assessment.
- Recommend treat all suspect materials as asbestos containing when carrying out works. Material can be sample analysed upon major works to confirm content. Samples taken in certain locations may not necessarily be indicative of similar looking items for the entire building. Sample results are indicative of the specific area from which they were taken.
- Treat all vinyl floor products, bituminous containing products, cement sheet products, window, air conditioning ductwork and control joint putty and all gaskets (other than rubber and cork) and friction materials as asbestos containing unless confirmed otherwise by sample analysis. Treat all fire rated doors as having an asbestos internal core unless confirmed otherwise. Due to the extent of the cement sheet based materials used at different stages of construction on the building, and as minimal or no samples were taken for analysis and dates of installations not known / provided then treat all cement sheet products encountered (including those visually identified) as suspected to contain asbestos. It is possible that some of the cement sheeting is non-asbestos cement sheeting however must be confirmed by sample analysis.
- It is possible upon building works / demolition to encounter unidentified or undetected asbestos material. Access with caution and consult register controller and implement revised safe work procedure. If demolition works are planned, it is recommended to conduct a ‘pre-demolition’ destructive type inspection incorporating additional / unrestrictive sample analysis.
- It is recommended to wear suitable personal protective equipment (PPE) including respiratory protection when entering all ceiling and confined spaces as a minimum pre-caution.
- Inspections are conducted based upon the Consultant performing and completing a job safety analysis / risk assessment prior to commencement of the inspection to ensure work is carried out in accordance with the relevant WHS Regulations and company Standard Operating Procedures. Subsequently no inspection has been performed to ceiling height and roofing heights greater than 2.5m unless site specific safe access systems have been made available. No inspection has been performed to operating / in service plant and equipment.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.1 – 5.1.1. External, Eastern elevation, Roof eave lining – fibre cement sheet.	Approx 3m^2 Limited access	Asbestos detected	Good Sealed Non friable	Original sample no. 1	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.1 – 5.1.2. External, East elevation, entrance porches (x2) lining – fibre cement sheet.	Approx 2m^2 Limited access	Asbestos detected	Moderate Unsealed Non friable	Similar to original sample no. 1	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016 – Paint in poor condition. Access with caution. No access to internal porch.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.1 – 5.1.3. External, Other eaves & verandah linings - cement sheet.	-	Non-asbestos	-	Visual	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

June 2008 – no inspection, refer previous note;
Eaves linings (other than the above items) were confirmed as non-asbestos at time of 2003 inspection.
August 2016 – non-asbestos / masonite material visible.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.1. Internal, Kitchen vinyl floor covering with backing material.	Approx 12m^2 Accessible	Asbestos detected	Not assessed	Original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.2. Internal, Corridor – south side of kitchen vinyl floor covering with backing material.	Approx 6m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.3. Internal, Store room – south side of kitchen – vinyl floor covering.	Approx 4m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.4. Internal, Lock-up files room – vinyl floor covering with backing material.	Approx 2m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.5. Internal, Southern entrance – vinyl floor covering with backing material.	Approx 2m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.6. Internal, North west workshop – heater seal.	Approx 1mx10mm	-	-	Original sample no. 16	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Metal cover on heater removed. Nil seal visible around glass front. Assume item removed by others.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.7. Internal, North west workshop – vinyl floor covering with backing material. (covered by carpet)	Approx 20m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.8. Internal, Corridor – vinyl floor covering with backing material. (covered by carpet)	Approx 20m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.9. Internal, North west office – vinyl floor covering with backing material. (covered by carpet)	Approx 15m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.10. Internal, South east office – vinyl floor covering with backing material. (covered by carpet)	Approx 12m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.11. Internal, Lounge – vinyl floor covering with backing material. (covered by carpet)	Approx 25m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 2	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CZECHOWICZ HOUSE, Section 5.2 – 5.2.12. Internal, Rear toilet ceiling lining - "Hardiflex" cement sheet.	Approx 2m^2 Accessible	Presume asbestos content	Not assessed	Visual	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 –Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Recommend sample (x1) to qualify material content, otherwise treat item as asbestos containing.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HEASLIP HOUSE, Section 5.3 – 5.3.1. External, Perimeter roof eaves lining – fibre cement sheet.	Approx 25m^2 Limited access	Asbestos detected	Moderate Sealed Non friable	Original sample no. 3	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016 – Battens loose and missing, debris visible. Recommend make safe / seal exposed fibres, refit loose battens and collect loose debris, in accordance with "Asbestos Approved Code of Practice".

4th November 2016 – CC site visit to make safe / seal exposed fibres, refit loose battens and collect loose debris, in accordance with "Asbestos Approved Code of Practice". Refer to Certificate of Completion in Appendix 'D'.

September 2017 – Paint in poor condition. Monitor for further signs of deterioration. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HEASLIP HOUSE, Section 5.3 – 5.3.2. External, Front porch lining – fibre cement sheet.	Approx 5m^2 Limited access	Asbestos detected	Moderate Unsealed Non friable	Similar to original sample no. 3	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016 – Paint in poor condition. Access with caution.

September 2017 – Paint in poor condition. Monitor for further signs of deterioration. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HEASLIP HOUSE, Section 5.3 – 5.3.3. External, Front porch, southern gable lining – fibre cement sheet.	Approx 1m^2 Limited access	Asbestos detected	Moderate Unsealed Non friable	Similar to original sample no. 3	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

September 2017 – Paint in poor condition. Monitor for further signs of deterioration. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HEASLIP HOUSE, Section 5.4 – 5.4.1. Internal, Eastern entrance porch – electrical cupboard lining.	-	-	-	Original sample no. 4	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Item Removed by Carter Corporation 10/03, refer to access maintenance forms for details of its removal.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HEASLIP HOUSE, Section 5.4 – 5.4.2. Internal / External, Eastern entrance porch lining and gable infill above door – fibre cement sheet.	Approx 1m^2 Limited access	Asbestos detected	Moderate Sealed Non friable	Similar to original sample no. 3	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

September 2017 – Paint in poor condition. Monitor for further signs of deterioration. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HEASLIP HOUSE, Section 5.4 – 5.4.3. Internal, Laundry ceiling lining – fibre cement sheet.	Approx 5m^2 Limited access	Asbestos detected	Not assessed	Similar to original sample no. 4	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
2011 Notes – No access to this room / item due to no key. Treat as asbestos containing until qualified by inspection. Access with caution.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HEASLIP HOUSE, Section 5.4 – 5.4.4. Internal, Kitchen Floor – vinyl floor covering with backing material.	Approx 10m^2 Accessible	Asbestos detected	Not assessed	Original sample no. 5	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend planned removal in accordance with "Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer.
Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.
2011 Notes - No access to this room / item due to no key. Treat as asbestos containing until qualified by inspection. Access with caution.
2010 Notes - No access to this item 2010 no key Building is derelict. Exercise caution when accessing as ceiling may collapse.
June 2013/15/ Aug 2016/Sept 2017 - No access no keys available.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.5 – 5.5.1. External, Roof eaves lining – fibre cement sheet.	Approx 115m^2 Limited access	Asbestos detected	Good Sealed Non friable	Original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.5 – 5.5.2. External, Eastern entrance porch lining – fibre cement sheet.	Approx. 5m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS					
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.					

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.5 – 5.5.3. External, Kitchen entrance porch, eastern side lining – fibre cement sheet.	Approx 8m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS					
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.					

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.5 – 5.5.4. External, Eastern courtyard eaves lining – fibre cement sheet.	Approx 100m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS					
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.					

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.5 – 5.5.5. Internal, Main plant room (Rm G30), upper section of southern wall lining – fibre cement sheet.	Approx 25m^2 Limited access	Asbestos detected	Moderate Unsealed Non friable	Similar to original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.5 – 5.5.6. Internal, HWS plant room (Rm G31), upper section of wall lining – fibre cement sheet.	Approx 25m^2 Limited access	Asbestos detected	Moderate Unsealed Non friable	Similar to original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
BASEMENT (UNDERGROUND VOID), Section 5.6 – 5.6.1. Retaining wall lining – fibre cement sheet.	Approx 50m^2 Limited access	Asbestos detected	Not assessed	Original sample no. 7	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016/Sept 2017 - No access / confined space area. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
BASEMENT (UNDERGROUND VOID), Section 5.6 – 5.6.2. Basement vent pipes – formed cement pipes. (Access via room G30)	8 Pipes, Approx 400mm dia. x 4m Accessible	Asbestos detected	Not assessed	Original sample no. 8	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
2010 Notes - These pipes continue into the earth before surfacing as vents at ground level.
August 2016/Sept 2017 - No access / confined space area. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.7 – 5.7.1. Internal, Western lounge, fire door – internal core.	-	-	-	Original sample no. 11	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
MAKK HOUSE, Section 5.7 – 5.7.2. Internal, “Blue" day room, fire door – internal core.	-	-	-	Similar to original sample no. 11	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
MAKK HOUSE, Section 5.7 – 5.7.3. Internal, HWS room adjacent kitchen (room G144), HWS flue pipe - fibre cement pipe.	Approx 1m	Presume asbestos content	-	Visual	-	No Photograph
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
No Inspection - Item has been removed prior to 2010 audit. No record of removal available. Recommend gather any asbestos removal or maintenance information and include/document this into the work/access section of the register to gain compliance. If full details of extent of removal are not known, recommend conduct specific re-inspection of removed areas taking samples to confirm non-asbestos content.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
McLEAY HOUSE, Section 5.8 – 5.8.1. External, Roof eaves lining – fibre cement sheet.	Approx 80m^2 Limited access	Chrysotile & Amosite asbestos detected	Good Sealed Non friable	Sample no. 01/WH/170709	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
McLEAY HOUSE, Section 5.8 – 5.8.2. External, Eastern entrance porch lining – fibre cement sheet.	Approx 4m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
McLEAY HOUSE, Section 5.8 – 5.8.3. External, Northern verandah lining – fibre cement sheet.	Approx 30m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
McLEAY HOUSE, Section 5.8 – 5.8.4. External, Northern plant room eaves lining – fibre cement sheet.	Approx 26m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
McLEAY HOUSE, Section 5.8 – 5.8.5. External, Room G121 floor covering – sheet vinyl (lino) backing.	-	No asbestos detected	-	Sample No. 1 (14/9/2004)	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

No asbestos detected upon laboratory analysis of sample. Refer also notes below.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
BASEMENT (UNDERGROUND VOID), Section 5.9 – 5.9.1. Retaining walls lining – fibre cement sheet. (Access via room G30)	Approx 50m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 7	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016/Sept 2017 - No access / confined space area. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
McLEAY HOUSE, Section 5.10 – 5.10.1. Internal, Kitchen, fire door - internal core.	-	-	-	Similar to original sample no. 11	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
McLEAY HOUSE, Section 5.10 – 5.10.2. Internal, Northern lounge, fire door – internal core.	-	-	-	Similar to original sample no. 11	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
McLEAY HOUSE, Section 5.10 – 5.10.3. Internal, Room G121 Surgery, floor covering – sheet vinyl (lino) backing.	-	No asbestos detected	-	Sample no. 1 (1/10/2004)	-	No Photograph
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
No asbestos detected upon laboratory analysis of sample.						

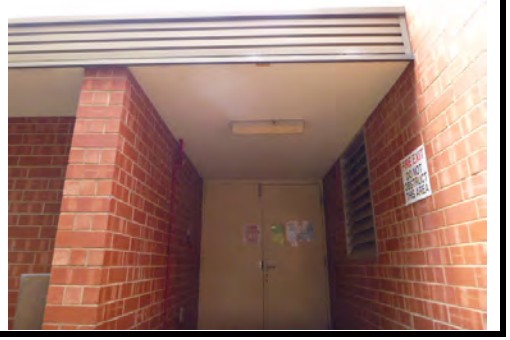
LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
ZWECK HOUSE (formally Clements House), Section 5.11 – 5.11.1. External, Roof eaves lining – fibre cement sheet.	Approx 40m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
ZWECK HOUSE (formally Clements House), Section 5.11 – 5.11.2. External, Northern verandah lining – fibre cement sheet.	Approx 30m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
ZWECK HOUSE (formally Clements House), Section 5.11 – 5.11.3. External, Western entrance porch lining – fibre cement sheet.	Approx 4m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.



LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
ZWECK HOUSE (formally Clements House), Section 5.11 – 5.11.4. External, Kitchen entrance, western side, ceiling lining – fibre cement sheet.	Approx 4m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
ZWECK HOUSE (formally Clements House), Section 5.11 – 5.11.5. External, Western courtyard eaves lining – fibre cement sheet.	Approx 100m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
BASEMENT (UNDERGROUND VOID), Section 5.12 – 5.12.1 Retaining walls lining – fibre cement sheet.	Approx 50m^2 Limited access	Asbestos detected	Not assessed	Similar to original sample no. 7	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016/Sept 2017 - No access / confined space area. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
BASEMENT (UNDERGROUND VOID), Section 5.12 – 5.12.2. Air conditioner flange joints - mastic.	Every flange joint	Presume asbestos content	Not assessed	Original sample no. 9	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Recommend sample (x4) to qualify material content, otherwise treat item as asbestos containing. Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016/Sept 2017 - No access / confined space area. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
ZWECK HOUSE (formally Clements House), Section 5.13 – 5.13.1. Internal, Northern lounge, fire door – internal core.	-	-	-	Similar to original sample no. 11	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
ZWECK HOUSE (formally Clements House), Section 5.13 – 5.13.2. Internal, Day room, fire door – internal core.	-	-	-	Similar to original sample no. 11	-
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS					
As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.					

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CLEMENTS HOUSE (formally Zweck House), Section 5.14 – 5.14.1. External, Roof eaves lining – fibre cement sheet.	Approx 40m^2 Limited access	Asbestos detected	Moderate Unsealed Non friable	Similar to original sample no. 6	Visible
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS					
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.					

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
CLEMENTS HOUSE (formally Zweck House), Section 5.14 – 5.14.2. External, Western entrance porch lining – fibre cement sheet.	Approx 4m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 6	Visible
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS					
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.					

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
CLEMENTS HOUSE (formally Zweck House), Section 5.14 – 5.14.3. External, HWS room G69 outside of laundry, New HWS visible. Loose / redundant HWS flue pipe in corner of room - fibro cement pipe.	-	-	-	-	-	No Photograph
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
July 2008 - Collect / wrapped loose redundant asbestos pipe for transport of disposal, in accordance with EPA requirements & "Approved Code of Practice".						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
BASEMENT (UNDERGROUND VOID), Section 5.15 – 5.15.1. Retaining walls –cement sheet.	Approx 50m^2 Accessible	Asbestos detected	Not assessed	Similar to original sample no. 7	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product. **August 2016/Sept 2017 -** No access / confined space area. Access with caution.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
BASEMENT (UNDERGROUND VOID), Section 5.15 – 5.15.2. Basement vent pipes – formed cement pipes.	8 pipes, 400mm dia x 4m Accessible	Asbestos detected	Not assessed	Similar to original sample no. 8	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product. **2010 Notes -** These pipes continue into the earth before surfacing as vents at ground level. **August 2016/Sept 2017 -** No access / confined space area. Access with caution.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
CLEMENTS HOUSE (formally Zweck House), Section 5.16 – 5.16.1. Internal, Day room, fire door – internal core.	-	-	-	Similar to original sample no. 11	-	No Photograph
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
CLEMENTS HOUSE (formally Zweck House), Section 5.16 – 5.16.2. Internal, Southern lounge, fire door – internal core.	-	-	-	Similar to original sample no. 11	-	No Photograph
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
As per 2001 inspection, doors removed and replaced with non-asbestos doors by Adelaide Fire Doors.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
CLEMENTS HOUSE (formally Zweck House), Section 5.16 – 5.16.3. Internal, Zweck, McLeay, Makk and Clements Houses – Wall and Footing Junction, Mastic sealant around perimeter of building	-	No asbestos detected	-	Sample no's 01/IM/170809 02/IM/170809 03/IM/170809 04/IM/170809	-	No Photograph
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
No asbestos detected upon laboratory analysis of sample.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.1. External, Reception entry / Eastern verandah lining – fibre cement sheet.	Approx 80m^2 Limited access	Asbestos detected	Good Sealed Non friable	Original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.2. External, Window infills to perimeter of building (including adjacent to doors) – fibre cement sheet.	Approx 100m^2 Accessible	Asbestos detected	Good Sealed Non friable	Original sample no. 13	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.3. External, North Eastern verandah lining – fibre cement sheet.	Approx 30m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.4. External, Eastern verandah / Entrance foyer lining – fibre cement sheet.	Approx 150m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016 – Damaged timber beam to north eastern main entry.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.5. External / Internal, Southern entrance verandah lining – fibre cement sheet.	Approx 8m^2 Accessible	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.6. External, Eastern verandah lining – fibre cement sheet.	Approx 30m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.7. External, Solarium, covered walkways, walls, and lower infills – fibre cement sheet.	Approx 22m^2 Accessible	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.8. External, Solarium, courtyard walls lining – fibre cement sheet.	Approx 10m^2 Accessible	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.9. External, South eastern verandah lining – fibre cement sheet.	Approx 30m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.10. External / Internal, Solarium – vinyl floor covering with backing material.	Approx 10m^2 Accessible	Asbestos detected	Not assessed	Original sample no. 14	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer. Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product. Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.

July 2008 – Duct taped lifting edges at joins, as interim of planned removal, in accordance with "Approved Code of Practice".

August 2016 - No access to this room / item. Treat as asbestos containing until qualified by inspection. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.11. External, Solarium, upper infills – fibre cement sheet.	Approx 6m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.17 – 5.17.12. External, Main plant room (Rm G45), wall lining and upper infill above entry door – fibre cement sheet.	Approx 7m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
HOWARD HOUSE, Section 5.17 – 5.17.13. External / Internal, Boiler room (Rm G46), upper wall and ceiling lining including north and east sides lining – fibre cement sheet.	Approx 10m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
HOWARD HOUSE, Section 5.17 – 5.17.14. Internal, Boiler room, "Ferroli" boiler- Front blower gasket and other pipework gaskets and seals	Approx 300mm Inaccessible	Presume asbestos content	Not assessed	Visual	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Treat all gaskets (other than rubber or cork) as asbestos containing unless confirmed otherwise by sample analysis. Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product. **August 2016/Sept 2017 -** Boiler not dismantled for inspection. Assume asbestos within the unit unless confirmed otherwise. Access with caution.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS	
BASEMENT (UNDERGROUND VOID), Section 5.18 – 5.18.1. Retaining walls lining – fibre cement sheet.	Approx 50m^2 Limited access	Asbestos detected	Not assessed	Similar to original sample no. 7	Visible	
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS						
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product. **August 2016/Sept 2017 -** No access / confined space area. Access with caution.						

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
5.18.2. Basement vent pipes – formed cement pipes. (Access via plant room)	5 pipes, 400mm dia x 4m visible Limited access	Asbestos detected	Not assessed	Similar to original sample no. 8	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

2010 Notes - These pipes continue into the earth before surfacing as vents at ground level.

August 2016/Sept 2017 - No access / confined space area. Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 **(PART A)** – 5.19.1. Internal, Flooring throughout – vinyl floor covering with asbestos backing material. **Note; southern and eastern areas are restricted access / unoccupied.**	Not quantified Limited access	Asbestos detected	Moderate Unsealed Friable	Similar to original sample no. 14	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Medium Risk P3 – Multi areas damaged. Recommend make safe in accordance with "Asbestos Approved Code of Practice". Backing layer trapped under vinyl. Item regarded safe whilst vinyl remains in good condition to protect from and prevent disturbance of asbestos backing layer. Note - as required by the OHS&W regulations, removal of this type of material is required to be performed by a licensed removalist.

2010 Notes - Some areas covered by carpets, limited inspection.

2013: 18/19 May 318m^2 Vinyl sheet removed from Howard House. Areas: Large Group room, T/L office, G11, 12, 22, 23, 21, 20, 19, 16 & Williams Day Centre. **Note that vinyl sheet remains under central cupboards and partition walls. Access with caution.**

Sept 2017 – Notes per above, Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 **(PART B)** – 5.19.1. Internal. Williams Day Care Centre / inaccessible areas under cupboards and inner partition walls – vinyl floor covering with asbestos backing material.	Not quantified Inaccessible	Asbestos detected	Not assessed (Friable)	Similar to original sample no. 14	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Note that vinyl sheet remains under central cupboards and partition walls. Access with caution.
2013: 18/19 May 318m^2 Vinyl sheet removed from Howard House. Northern Areas: **Large Group room**, T/L office, G11, 12, 22, 23, 21, 20, 19, 16 & **Williams Day Centre**.

Sept 2017 – Notes per above, Access with caution.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.2. Internal, Corridor fire doors - adjacent Room G6 - internal core.	Approx 4m^2 Limited access	Asbestos detected	Good Sealed Friable	Similar to original sample no. 11	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
August 2016 - Treat all fire doors as having an asbestos internal core unless confirmed otherwise by sample analysis.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.3. Internal, Corridor Adjacent Room G41 – fire door core	Approx 2.5m^2	-	-	Similar to original sample no. 11	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Original door removed by Adelaide Fire Doors, 3/2003 as recorded in site copy of register. New non-asbestos door visible, date stamped 2003.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.4. Internal, Room G39, fire door - internal core.	Approx 2m^2 Limited access	Asbestos detected	Good Sealed Friable	Similar to original sample no. 11	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
August 2016 - Treat all fire doors as having an asbestos internal core unless confirmed otherwise by sample analysis.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.5. Internal, Room G44, fire door - internal core.	Approx 2m^2 Limited access	Asbestos detected	Good Sealed Friable	Similar to original sample no. 11	Visible

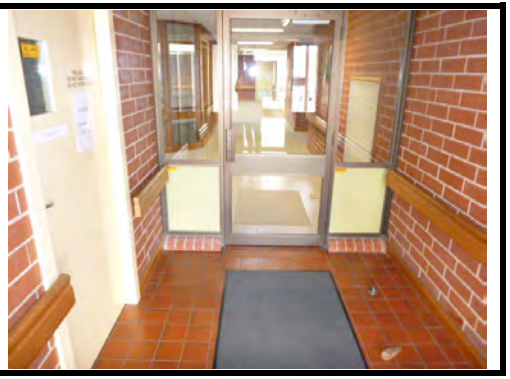
SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
August 2016 - Treat all fire doors as having an asbestos internal core unless confirmed otherwise by sample analysis.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Additional item 2016 Internal, Western entrance / opposite room G44, infill panels below windows / either side of door – fibre cement sheet.	Approx 1m^2 Accessible	Presume asbestos content	Good Sealed Non friable	Visual	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.



LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.6. Internal, Corridor fire door -adjacent Room G92 - internal core.	Approx 4m^2 Limited access	Asbestos detected	Good Sealed Friable	Similar to original sample no. 11	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

August 2016 - Treat all fire doors as having an asbestos internal core unless confirmed otherwise by sample analysis.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.7. Internal, Corridor fire door - adjacent Room G93, - internal core.	Approx 4m^2 Limited access	Asbestos detected	-	Similar to original sample no. 11	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

No inspection, original fire door replaced 2007 – Direct Fire

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.8. Internal, Corridor fire door - adjacent Room G56, - internal core.	-	-	-	-	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

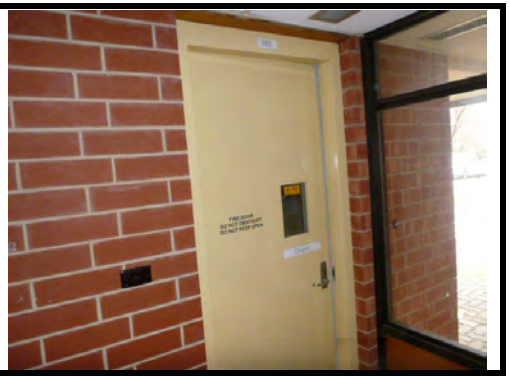
June 2008 – no inspection, refer previous note;
Original door removed by Adelaide Fire Doors, 3/2003 as recorded in site copy of register. New non-asbestos door visible, date stamped 2003.

No Photograph

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.9. Internal, Room G55, fire door - internal core.	Approx 2m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 11	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

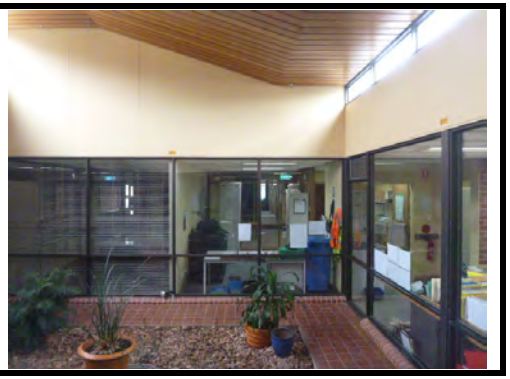
Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.
August 2016 - Treat all fire doors as having an asbestos internal core unless confirmed otherwise by sample analysis.



LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.10. Internal, Light court (area behind Admin Office), upper level wall lining – fibre cement sheet.	Approx 25m^2 Limited access	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 12	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.



LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
HOWARD HOUSE, Section 5.19 – 5.19.11. Internal / External, Light court (area behind Admin Office), vent pipes (x2) – formed cement pipe.	2 pipes, Approx 500mm dia. Accessible	Asbestos detected	Good Sealed Non friable	Similar to original sample no. 8	Visible

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

Low Risk P4 – Avoid physical and mechanical damage. When maintenance/upgrade is required, recommend removal and reinstate with non-asbestos product.

2010 Notes - Item extends through ground and tunnels below.

LOCATION - DESCRIPTION	EXTENT	ASBESTOS ASSESSMENT	CONDITION	SAMPLE NO VISUAL TEST	SIGNAGE STATUS
ENGINEERING WORKSHOPS, Section 5.20 – Nil asbestos.	-	No asbestos detected	-	-	-

SURVEY FINDINGS and HAZARD MANAGEMENT RECOMMENDATIONS

June 2008 – no inspection, refer previous note;

Nil asbestos visible as per original survey. Nil re-inspection.

No Photograph

Appendix B – CERTIFICATES OF ANALYSIS

Samples taken by Carters in accordance with standard operating procedures are submitted to NATA approved laboratories for analysis, and are analysed in accordance with NATA approved methods for analysis type. Certificates of analysis are provided by the laboratory as a reference of the results for inclusion into the register appendix B.

Samples provided/as received in our offices (taken by others) are analysed in accordance with NATA approved methods for analysis, no responsibility is taken for the actual sampling collection technique, determination of sample location, and the consequent bearing on the sample result.

Limitations of Sample Analysis

The certificate of analysis provided by the laboratory is a record of asbestos or non-asbestos content of the sample piece provided for analysis.

Consideration is given to minimise damage to clients property where taking necessary samples as it is difficult to remove a sample from installed materials such as flushed fixed panel wall and ceiling linings and fixed floor coverings. In other cases it may not be safe to access materials to take samples such as electrical panels, and integral gasket / seal or insulation materials to plant and equipment.

Limitations also apply to the analytical methods used by the laboratory in the identification of substances. These limitations may be due to the sample to be analysed may not be representative (non-homogenous), or low concentrations, the presence of ‘masking’ agents and the restrictions of the approved laboratory technique. As such, non-statistically significant sampling results can only be interpreted as ‘indicative’ and not used for quantitative assessments.

It is also noted that with some asbestos containing bulk material it can be very difficult or impossible to detect the presence of asbestos using the polarised light microscopy (PLM) analytical method, even after ashing or disintegration of samples. This can be attributed to the fact that very fine fibres have been distributed individually throughout the material or due to the low grade or small length or diameter of asbestos fibres present.

The analysis of asbestos containing material within insulation materials may also be compromised in circumstances where the material has been subject to the effects of heat, as this may alter the morphology of the fibrous material.

Inconclusive Sample Identification

In some instances it is not possible to determine asbestos fibre content within a sample using the NATA approved method (PLM – polarized light microscopy). Items such as vinyl floor products, adhesives and mastics due to low asbestos content and/or non uniform asbestos fibre concentration are often difficult to analyse. Due to the nature of these materials the NATA laboratory may recommend that the material be tested using another independent technique (XRD – x-ray diffraction), where PLM and XRD analysis have been made two certificates of analysis will be supplied. Due to the very low concentration of asbestos fibres and the non-homogenous matrix of items such as vinyl floor tiles, false negative results may be obtained. Therefore the accuracy of all results cannot be guaranteed.
Whilst XRD analysis can determine what group of minerals are present in the sample i.e. Serpentine and or Amphibole, the test does not specify what type of asbestos fibre is present and is not a NATA approved method. The result may show a sample for example from the Amphibole group but this does not confirm the mineral is actually an asbestos fibre; however the material is presumed to contain asbestos and will be treated as asbestos.

Representative Sample Analysis

Asbestos content can vary within a material dependant upon other factors such as installation procedures, differences in stocks and supplies, time differences in stages of construction and physical mixing of varying quantities of asbestos with other materials. Sections of asbestos containing materials may have also been replaced with non-asbestos materials that look identical from inspection (eg damaged eaves or wall cladding patched or repaired with non-asbestos). Inconsistencies in sample results may be possible due to the inspected materials within a property not being typical throughout. The sample result provided is for that location of material sampled and as such Carter Corporation accepts no responsibilities for the representativeness of the sample(s) presented for analysis.

Amdel Ltd
ABN 30 008 127 802

35-37 Stirling Street Thebarton SA 5031
PO Box 338, Torrensville Plaza SA 5031
Phone: (08) 8416 5267 Facsimile: (08) 8234 0321

amdel
www.amdel.com

ASBESTOS IDENTIFICATION REPORT

CLIENT: Carter Corporation Pty Ltd

DATE: 16 September 2004

ADDRESS: 95 Currie Street, Adelaide SA 5000

CC REGISTER NO: AS1213

REPORT NO: 4AD2372V

LOCATION: McLeay House, 200 Fosters Road, Oakden SA

PAGE NO: 1 of 1

NATA ACCREDITATION NO: 1526

SCOPE OF ACCREDITATION: Class 7.82.31: Qualitative identification of asbestos types in bulk samples by polarized light microscopy.

RESULTS:

Sample: 1 – Room G121 Surgery, floor vinyl
Sample size (a): 20x10x3
Description: The sample is an off-white flooring
Result: No asbestos was detected by polarized light microscopy, but identification may not be possible due to adhering resins. Confirmation by another independent analytical technique is advised

APPROVED IDENTIFIER: Michael Till

APPROVED SIGNATORY: m. J. Till

The approximate dimensions (in mm) stated above refer to the size of (a) a single piece (b) largest of several particles (c) largest of many particles (d) volume in ml of unconsolidated particles (e) weight in grams of unconsolidated particles
Note: Chrysotile is a fibrous silicate mineral commonly known as white asbestos, amosite is a fibrous silicate commonly known as brown or grey asbestos and crocidolite is a fibrous silicate commonly known as blue asbestos.
The results contained in this report relate only to the sample(s) submitted for testing. Amdel Laboratories Ltd accepts no responsibilities for the representivity of the sample(s) submitted.

Amdel Ltd
ABN 30 008 127 802

35-37 Stirling Street Thebarton SA 5031
PO Box 338, Torrensville Plaza SA 5031
Phone: (08) 8416 5267 Facsimile: (08) 8234 0321

amdel
www.amdel.com

ASBESTOS-FORMING MINERAL IDENTIFICATION REPORT

CLIENT: Carter Corporation Pty Ltd

DATE: 16 September 2004

ADDRESS: 95 Currie Street, Adelaide SA 5000

CC REGISTER NO: AS1213

REPORT NO: 4AD2372VX

LOCATION: McLeay House, 200 Fosters Road, Oakden SA

PAGE NO: 1 of 1

PROCEDURE

The sample was analysed by X-ray diffraction, which detects crystalline substances and minerals (including asbestos-forming minerals). Non-crystalline substances (eg glass, most organic compounds) are not detectable by this technique.

RESULTS

Sample: 1 – Room G121 Surgery, floor vinyl
Description: The sample is a 3mm thick off-white flooring
Result: Calcite and rutile were detected by X-ray diffraction. Asbestos-forming minerals were not detected.

TESTING OFFICER: Michael Till

Note: Chrysotile is a fibrous silicate mineral commonly known as white asbestos. The other minerals listed are fillers or pigments. They may include calcite (calcium carbonate), rutile and anatase (both are titanium dioxide – white pigment), aragonite (calcium carbonate found in shellgrit), kaolinite (white clay), dolomite (calcium magnesium carbonate) and goethite (brown iron oxide), Magnesium hydroxide (if present) is an as-mined impurity of chrysotile.

Amdel Ltd
ABN 30 008 127 802

Unit 2, 35 Cormack Road, Wingfield SA, 5013
PO Box 552, Port Adelaide BC, SA 5015
Phone: (08) 8440 7145 Facsimile: (08) 8440 7197

ASBESTOS IDENTIFICATON REPORT

CLIENT: Carter Corporation Pty Ltd
ADDRESS: 42 Trembath Avenue, Bowden SA 5007
CC REGISTER NO: AS1213 E8699
RESULTS:

DATE: 21 July 2009
REPORT NO: 9AA0581AW
PAGE NO: 1 of 1

SAMPLE NO.	***01/WH/170709***
BUILDING NO (if applicable)	
BLDG DESCRIPTION (if applicable)	*McLeay House*
SAMPLE LOCATION	*Internal courtyard eaves Item 5.8.1*
SAMPLE DESCRIPTION	*Cement Sheet*
SAMPLE SIZE	(a): 25x10x3
LAB DESCRIPTION	The sample is a brown fibrous sheeting, painted yellow
LAB RESULT	Chrysotile and amosite asbestos were detected by polarized light microscopy. Organic fibre was detected by polarized light microscopy

APPROVED IDENTIFIER: Naciye Haliloff

APPROVED SIGNATORY: Michael Till

The approximate dimensions (in mm) stated above refer to the size of (a) a single piece (b) largest of several particles (c) largest of many particles (d) volume in ml of unconsolidated particles (e) weight in grams of unconsolidated particles of ash from heating at 400ºC
Note: Chrysotile is a fibrous silicate mineral commonly known as white asbestos, amosite is a fibrous silicate commonly known as brown or grey asbestos and crocidolite is a fibrous silicate commonly known as blue asbestos. SMF (Synthetic Mineral Fibre) is commonly known as glass fibre and OF (Organic Fibre) includes natural fibres (eg cellulose) and synthetic organic fibre but not high temperature fibres (eg Teflon fibres). A blank in the SMF or OF column implies not detected. Tr in the SMF or OF column indicates identification in Trace amount

The results contained in this report relate only to the sample(s) submitted for testing. Amdel Ltd accepts no responsibilities for the representivity of the sample(s) submitted.
SCOPE OF ACCREDITATION: Class 7.82.31: Qualitative identification of asbestos types in bulk samples by polarized light microscopy, including dispersion staining.

NATA

This document is issued in accordance with NATA's accreditation requirements
Accredited for compliance with ISO/IEC 17025.
NATA accreditation number: 1526

Amdel Ltd
ABN 30 008 127 802

Unit 2, 35 Cormack Road, Wingfield SA, 5013
PO Box 552, Port Adelaide BC, SA 5015
Phone: (08) 8440 7145 Facsimile: (08) 8440 7197

ASBESTOS IDENTIFICATON REPORT

CLIENT: Carter Corporation Pty Ltd
ADDRESS: 42 Trembath Avenue, Bowden SA 5007
CC REGISTER NO: AS1213

DATE: 18 August 2009
REPORT NO: 9AA0713AD
PAGE NO: 1 of 1

RESULTS:

SAMPLE NO.	***01/IM/170809***		
BUILDING NO. (if applicable)	*Zwek House*	BLDG DESCRIPTION (if applicable)	*200 Fosters Road, Oakden*
SAMPLE LOCATION	*Wall and footing junction seal northern wall*	SAMPLE DESCRIPTION	*Mastic type sealing compound grey colour*
SAMPLE SIZE	(a) 45x25x5		
LAB DESCRIPTION	The sample is a grey flexible lump		
LAB RESULT	No asbestos was detected by polarized light microscopy		
SAMPLE NO.	***02/IM/170809***		
BUILDING NO. (if applicable)	*McLeay House*	BLDG DESCRIPTION (if applicable)	*200 Fosters Road, Oakden*
SAMPLE LOCATION	*Wall and footing junction seal eastern wall*	SAMPLE DESCRIPTION	*Mastic type sealing compound grey colour*
SAMPLE SIZE	(a) 100x10x5		
LAB DESCRIPTION	The sample is a grey flexible lump		
LAB RESULT	No asbestos was detected by polarized light microscopy		
SAMPLE NO.	***03/IM/170809***		
BUILDING NO. (if applicable)	*Maak House*	BLDG DESCRIPTION (if applicable)	*200 Fosters Road, Oakden*
SAMPLE LOCATION	*Wall and footing junction seal southern wall*	SAMPLE DESCRIPTION	*Mastic type sealant grey colour*
SAMPLE SIZE	(a) 90x20x5		
LAB DESCRIPTION	The sample is a grey flexible lump		
LAB RESULT	No asbestos was detected by polarized light microscopy		
SAMPLE NO.	***04/IM/170809***		
BUILDING NO. (if applicable)	*Clements House*	BLDG DESCRIPTION (if applicable)	*200 Fosters Road, Oakden*
SAMPLE LOCATION	*Wall and footing junction seal western wall*	SAMPLE DESCRIPTION	*Mastic type sealant grey colour*
SAMPLE SIZE	(a) 25x25x5		
LAB DESCRIPTION	The sample is a grey flexible lump		
LAB RESULT	No asbestos was detected by polarized light microscopy		

APPROVED IDENTIFIER: Naciye Haliloff

APPROVED SIGNATORY: Michael Till

The approximate dimensions (in mm) stated above refer to the size of (a) a single piece (b) largest of several particles (c) largest of many particles (d) volume in ml of unconsolidated particles (e) weight in grams of unconsolidated particles of ash from heating at 400°C
Note: Chrysotile is a fibrous silicate mineral commonly known as white asbestos, amosite is a fibrous silicate commonly known as brown or grey asbestos and crocidolite is a fibrous silicate commonly known as blue asbestos. SMF (Synthetic Mineral Fibre) is commonly known as glass fibre and OF (Organic Fibre) includes natural fibres (eg cellulose) and synthetic organic fibre but not high temperature fibres (eg Teflon fibres). A blank in the SMF or OF column implies not detected. Tr in the SMF or OF column indicates identification in Trace amount

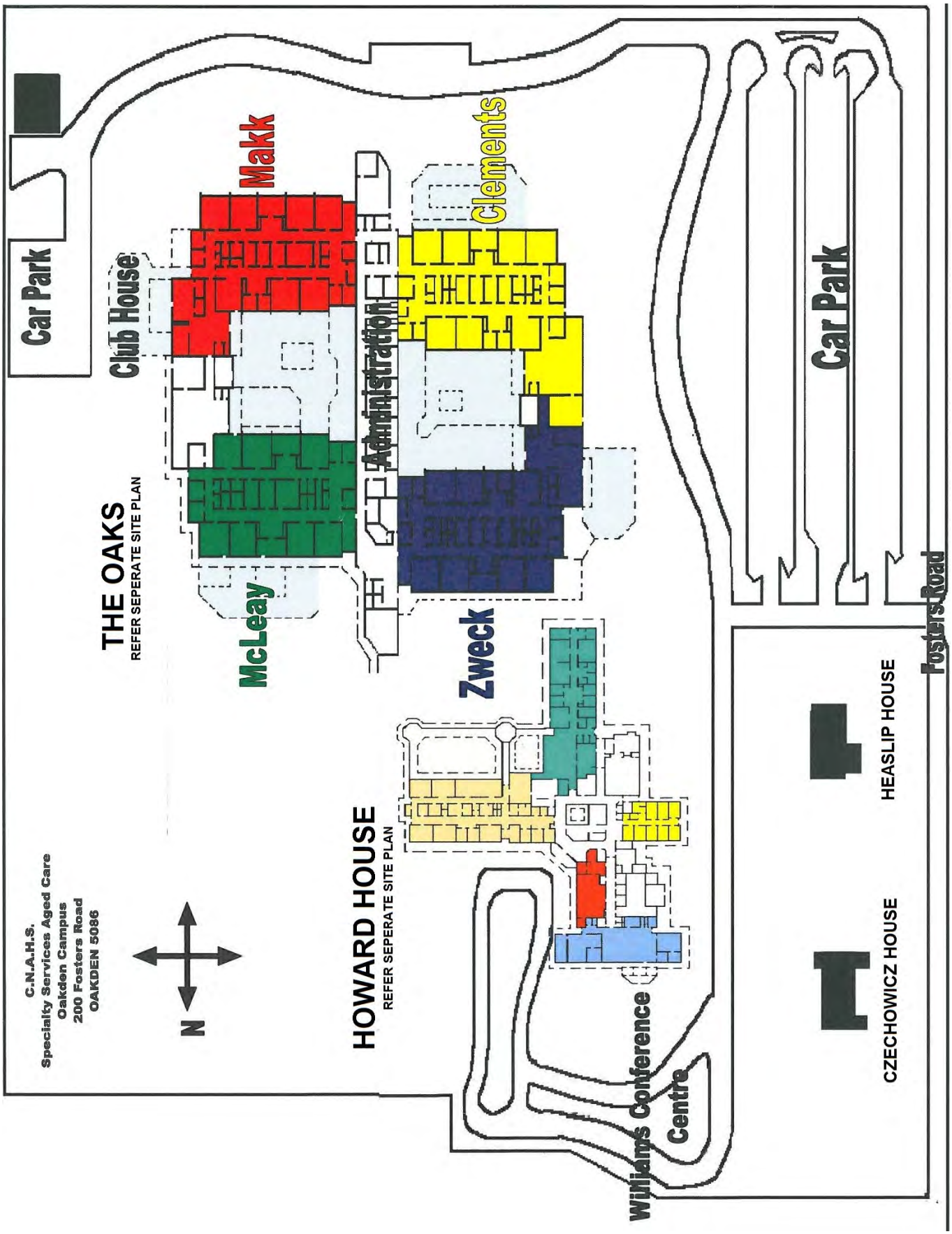
Appendix C – REGISTER DRAWING

LEGEND: **This drawing is indicative only, not to scale and is to be read in conjunction with register.**

X = designates ceiling access point

(A.) = letters indicate location of external asbestos containing materials, refer to asbestos register location schedule

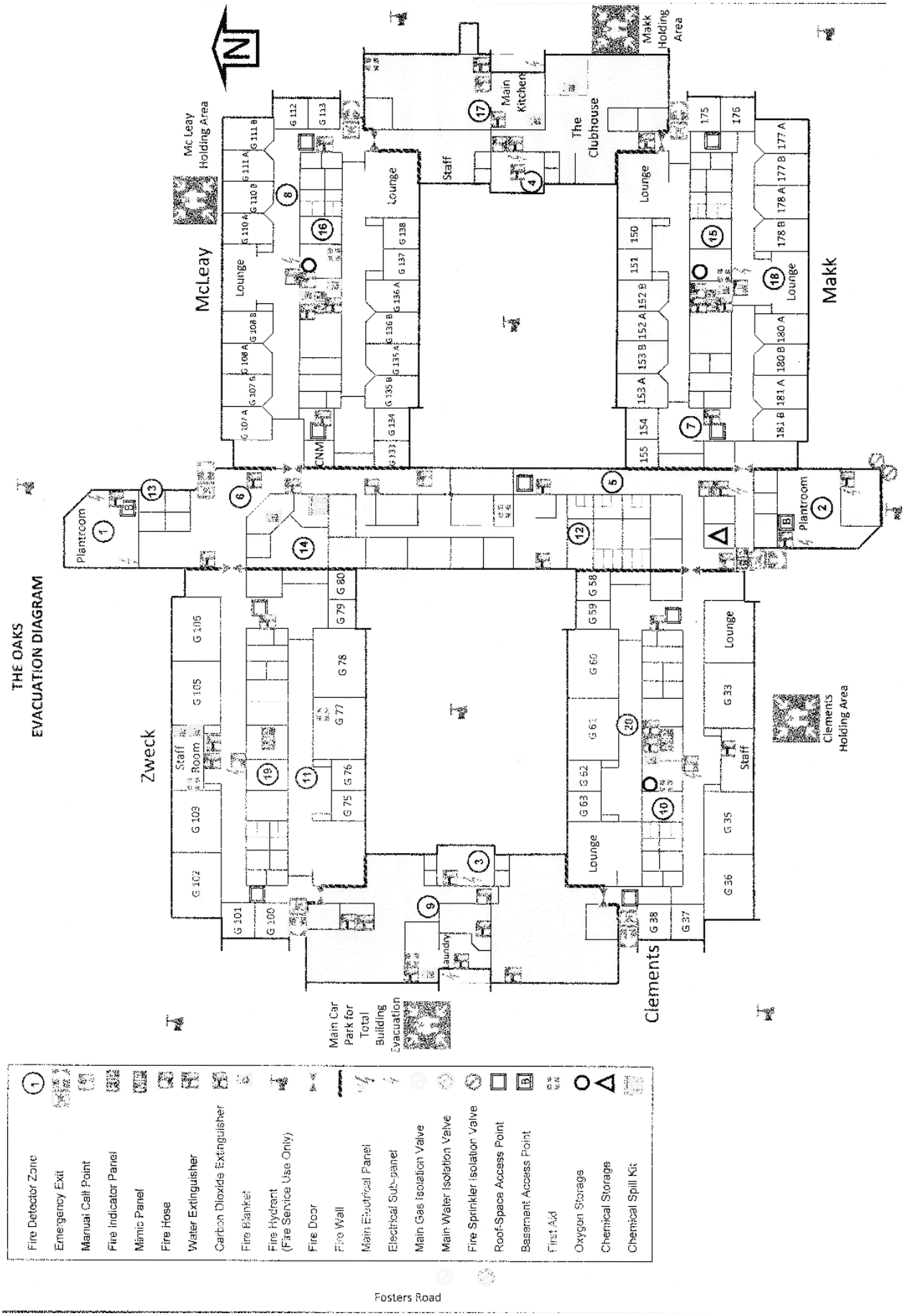
(1.) = no.'s indicate location of internal asbestos containing materials, refer to asbestos register location schedule


Car Park
Club House
Makk
Clements
Administration
Car Park
THE OAKS
REFER SEPERATE SITE PLAN
McLeay
Zweck
Fosters Road
HEASLIP HOUSE
HOWARD HOUSE
REFER SEPERATE SITE PLAN
CZECHOWICZ HOUSE
Williams Conference Centre
C.N.A.H.S.
Specialty Services Aged Care
Oakden Campus
200 Fosters Road
OAKDEN 5086
N

Carters
Asbestos Management

REGISTER: AS 1213 **DATE: 14/09/2017**

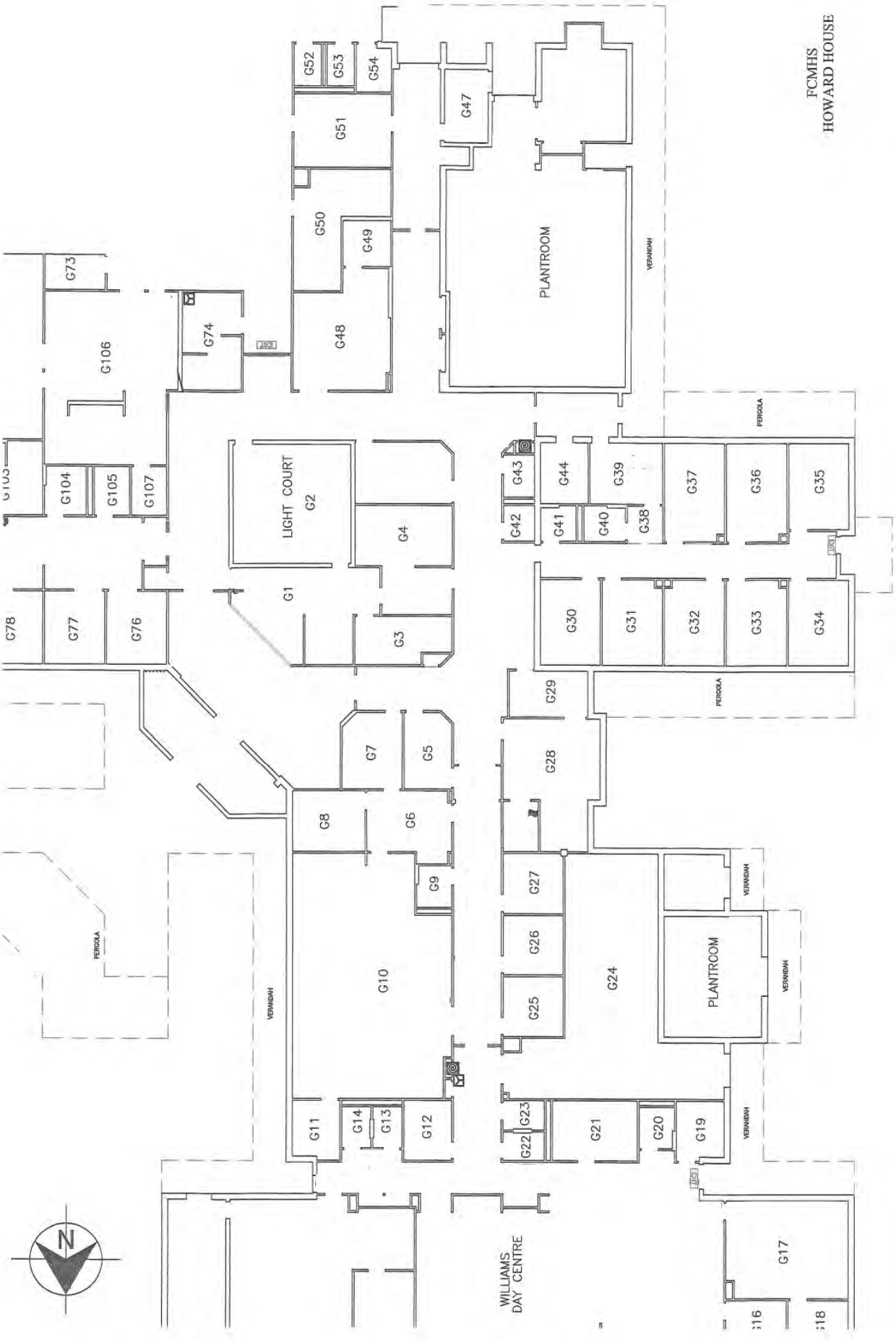
ADDRESS: NMHS-OPMHS Oakden-200 Fosters Rd Oakden, SA **NEXT REVIEW RECOMMENDED: 09/2018**



Carters
Asbestos Management

REGISTER: AS 1213 **DATE: 14/09/2017**

ADDRESS: NMHS-OPMHS Oakden-200 Fosters Rd Oakden, SA **NEXT REVIEW RECOMMENDED: 09/2018**



Appendix D – FORMS

From:Carter Corporation Pty Ltd To:D & V Services +61 8 83463888 20/05/2013 14:30 #328 P.001/001

SECTION 2 WORK/ACCESS PROCEDURES

2.3b CARTER CORPORATION PTY. LTD. ASBESTOS REGISTER WORK ACCESS FORM 'ASBESTOS MANAGEMENT CERTIFICATE OF INSPECTION'

SITE DETAILS;

ASBESTOS REGISTER / CC JOB NUMBER : AS 1213 E 13275

CLIENT: Adelaide Health Service - Glenside Campus Engineering and Building Service Department

SITE ADDRESS : Howard House - 200 Fosters Road, Oakden

CLIENT CONTACT / AUTHORISING PERSON / REGISTER CONTROLLER: Mr Jeff Scott

PROJECT DETAILS;

ASBESTOS REGISTER ITEM :5.19.1

ASBESTOS WORK AREA / ROOM / LOCATION : Howard House Group room, T/L office, G11, 12, 22, 23, 21, 20, 19, 16 & Williams Day Centre

ASBESTOS REMOVAL DETAILS – TYPE AND EXTENT: ABV 318m^2

ASBESTOS MANAGEMENT DETAILS;

ASBESTOS REMOVAL SUB-CONTRACTOR : D & V Services Pty Ltd

SAFEWORK SA NOTIFICATION NUMBER : 152965

Note - It is the responsibility of the above licensed asbestos removalist contractor to:

- apply to Safework SA for approval
- conduct notifications in accordance with the application and approval
- to provide a nominated supervisor and nominate the air-monitoring company
- to conduct job safety analysis / risk assessment
- to remove and dispose the above mentioned asbestos in accordance with OHS&W regulations
- provide the approval number and name of Safework SA inspector to the air-monitoring company.
- provide a copy of this certificate of inspection along with a copy of the air-monitoring results to Safework SA.

CC INSPECTION DETAILS;

A visual inspection of the work area detailed above was undertaken to ensure that all visible asbestos material described in the above scope has been removed from the site / work area described above in accordance with the quotation and that no visible asbestos residue remains as a result of the removal (pending conditions, limitations, and qualifications detailed below). Air-monitoring was undertaken in accordance with the National Occupation Health and Safety Commission Guidance note on the membrane filter method for estimating airborne asbestos dust. The spreadsheets of results indicate that during the monitoring sessions the areas tested were well below the WorkSafe Australia exposure standard of 0.1 fibres per mL. The level of airborne asbestos fibre was less than 0.01 fibres per millilitre of air (refer copy of independent results attached).
This visual inspection combined with the air-monitoring results confirms that the work area can be re-occupied.

DATE & APPROX. TIME OF INSPECTION : 19/05/2013 4.30PM

CC INSPECTOR NAME : Peter Butt

CC INSPECTOR SIGNATURE : 

CONDITIONS OF INSPECTION;

Inspections are only carried out to the areas detailed to be removed and inspections are conducted where access is available, specifically no inspection has been carried out to areas that may require further demolition to verify presence of asbestos. It should be noted that no inspection can be regarded as absolute and that additional asbestos may be encountered / uncovered upon further building works, excavation or demolition of structures. Inspection was carried out at the time of the completion of the removal and was dependant upon site conditions at the time of inspection.

NOTES Vinyl sheet remains under central cupboards and partition walls. Access with caution. No cement sheet infill panels removed as per Notification 152965

Carter Corporation Pty Ltd - Asbestos Management Services – 42 Trembath Street, Bowden SA 5007
Phone 8346 2999 / fax 8346 3888 email enquiries@cartercorporation.com.au www.cartercorporation.com.au

Reference : Asbestos Register Kit
Manual: OHS&W
Reference No: OHS&W/Policies/Asbestos In the workplace
Developed: 1993
Date of Review: January 2004

82424969

Adelaide Asbestos Audits & Monitoring

REPORT OF ANALYSIS

Report Number:	**RN 01799**	**Client Order Number:**	20224/5346/VT
Reference Code:	DAVS01-130518-MS	**Approval Number:**	152965

Air monitoring in accordance with the National Occupational Health and Safety Commission guidance note on the membrane filter method for estimating airborne asbestos dust was carried out concluding on the **19-May-13**

at **Aged Mental Health 200 Fosters Road Oakden**

on behalf of **D & V Services**

The spreadsheets of results attached, indicate that during the monitoring sessions the areas tested were well below the Worksafe Australia Exposure Standard of 0.1 fibres /mL.

This report should not be considered as a contractual document and should not be reproduced except in full.

Mark Seater
Approved Analyst
19-May-13

Adelaide Asbestos Audits Monitoring
49 Heath Street, Birkenhead SA 5015
Mobile: 040 040 1972 Fax: 08 8242 4969
E-mail: adelaideasbestos@bigpond.com.au

82424969

Adelaide Asbestos Audits and Monitoring

AIRBORNE ASBESTOS FIBRE MONITORING

Site: Aged Mental Health 200 Fosters Road Oakden

Client: D&V Services **Date:** 18-05-2013

Job Name: DAVS01-130518-MS **Approval:** 152965 **LRN:** 13-000141

Location	Activity	Time On	Run Time	Flow Rate (ml/min)	Fibres Conc. (per mL)
Adjacent Room G25	C	0700	495	1000	<0.01
Outside western entrance	C	0700	495	1000	<0.01
Northern verandah	C	0700	495	1000	<0.01
Outside eastern entrance	C	0700	495	1000	<0.01
Inside main room	C	0700	495	1000	* unreadable

* unreadable slide due to high smoke concentration

G = Background C= Clearance F = Final Clearance B= Waste Removal
S = Plastic Stripdown

The Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment (Source D Update) 2003 [NOHSC:1003(1995)] requires a Fibre Concentration of no more than 0.1 fibres per mL

Analyst: Mark Seater

49 Heath Street Birkenhead SA 5015
Tel: 040 040 1972 Fax: +61 8 8242 4969

Procedure: AAAM - 01

82424969

Adelaide Asbestos Audits and Monitoring

AIRBORNE ASBESTOS FIBRE MONITORING

Site: Aged Mental Health 200 Fosters Road Oakden

Client: D&V Services **Date:** 19-05-2013

Job Name: DAVS01-130518-MS **Approval:** 152965 **LRN:** 13-000141

Location	Activity	Time On	Run Time	Flow Rate (ml/min)	Fibres Conc. (per mL)
Adjacent Room G25	C	0645	500	1000	<0.01
Outside western entrance	C	0645	500	1000	<0.01
Northern verandah	C	0645	500	1000	<0.01
Outside eastern entrance	C	0645	500	1000	<0.01
Inside main room	C	0645	500	1000	<0.01

G = Background C= Clearance F = Final Clearance B= Waste Removal
S = Plastic Stripdown

The Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment (Source D Update) 2003 [NOHSC:1003(1995)] requires a Fibre Concentration of no more than 0.1 fibres per mL

Analyst: Mark Seater

49 Heath Street Birkenhead SA 5015
Tel: 040 040 1972 Fax: +61 8 8242 4969

Procedure: AAAM - 01

Carters
Asbestos Management

- Asbestos Registers & Annual Updates
- Asbestos Repairs & Maintenance
- Asbestos Training & Support
- Asbestos Removal
- Asbestos Advice & Consultancy
- Asbestos Safety Products

CERTIFICATE OF COMPLETION (MAINTENANCE)

DATE OF WORK	04/11/2016	REGISTER or JOB No.:	1213	ENQUIRY No.:	18118
PERSONS CARRYING OUT WORK	Willie Harris				
PROPERTY ADDRESS	200 Fosters Road, Oakden				
NAME OF CLIENT AUTHORIZING WORK TO PROCEED	Mr Charlie Mezak				

Work Carried Out (Brief Scope)

Heaslip House Item '5.3.1' – make safe / seal exposed fibres and re-batten. Also collect loose asbestos debris for transport and disposal.

TICK	ITEM NO'S	DESCRIPTION OF WORK
☐		Item removed in accordance with "Approved Code of Practice".
☐		Dust and debris in base of electrical cabinet cleaned out using approved asbestos rated vacuum system in accordance with "Approved Code of Practice".
☒		Asbestos waste collected and disposed of in accordance with EPA requirements.
☒		Item made safe in accordance with "Approved Code of Practice".
☐		"All Clear" air monitoring certificate attached (where applicable).
☐		Caution signs installed in accordance with safe work method and SOP.
☐		Samples taken in accordance with safe work method and SOP.
☐		Other (SPECIFY)

Standard Operating Procedure Used / Safe Work Method

☐ SOP 3.2 **Removal of Asbestos Cement and Resin Boards**	☐ SOP 3.3 **Removal of Vinyl Tiles**	☐ SOP 3.5 **Vacuum Use**
☒ SOP 3.6 **Making Safe Asbestos Containing Materials**	☒ SOP 3.7 **Transport and Disposal of Waste**	☒ SOP 3.8 **Collection of Waste**
☐ SOP 3.9 **Installing Caution Signs**	☐ SOP 3.10 **Installing Register Holder**	☐ SOP 1.3 **Sample Taking**
☐ OTHER		

Job Notes / Qualifications / Limitations of Removal (if any - Use back of sheet for further notes if required)

Signed : **Date: 04/11/2016**

Appendix E

Environmental Maps

Regional Topography

N

0 1:4,160 0

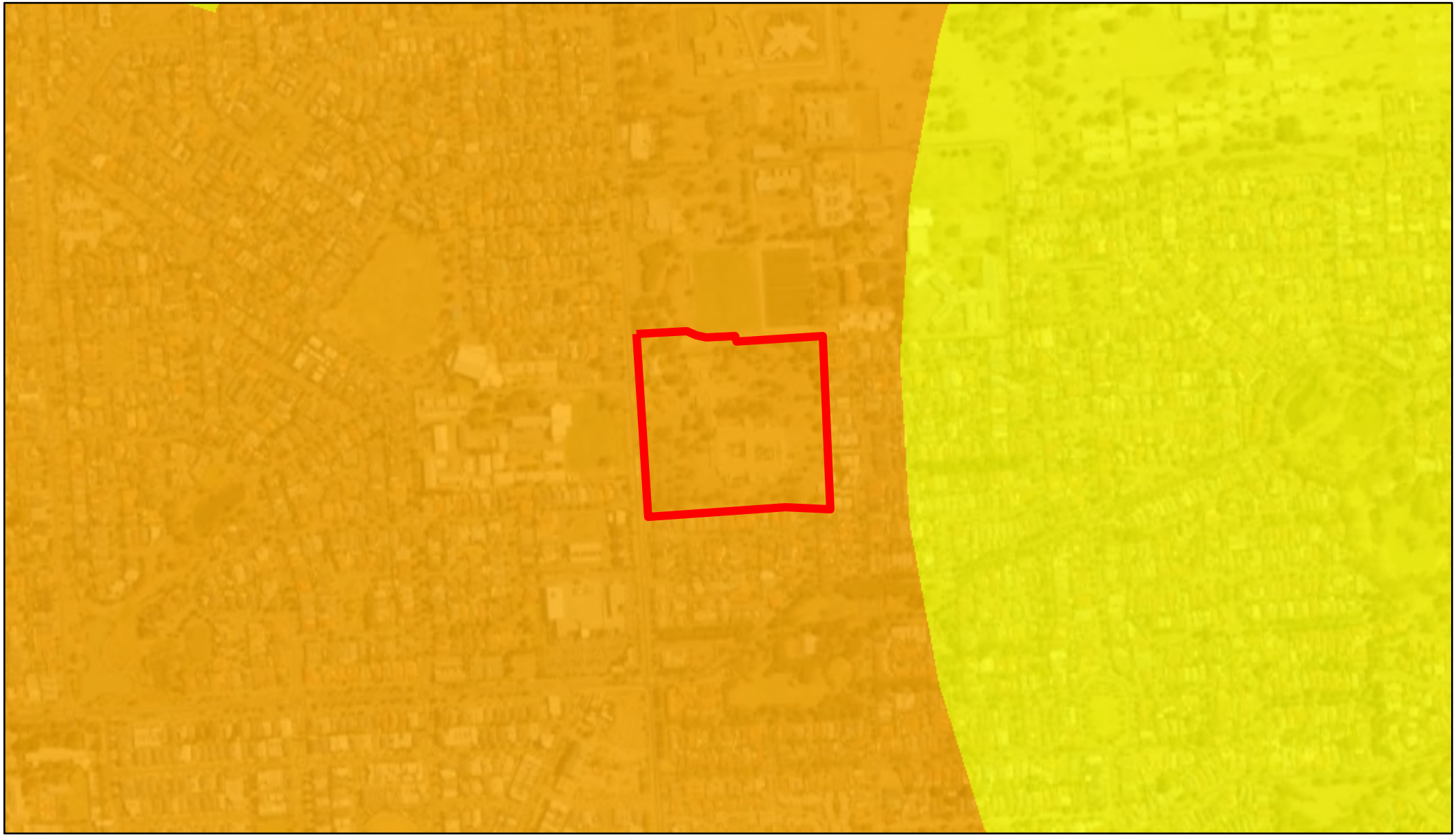
Metres

Compiled:	11-Apr-2019
Generated at:	www.naturemaps.sa.gov.au
Datum:	Geocentric Datum of Australia, 1994
Projection:	Web Mercator (Auxiliary Sphere)

Government of South Australia
Department for Environment and Water

Map data is compiled from a variety of sources and hence its accuracy is variable.

Shallow Groundwater Depth



April 14, 2019

SOUTH AUSTRALIA

Government of South Australia

- 0-2 m
- 2-5 m
- 5-10 m
- 10-20 m
- > 20 m

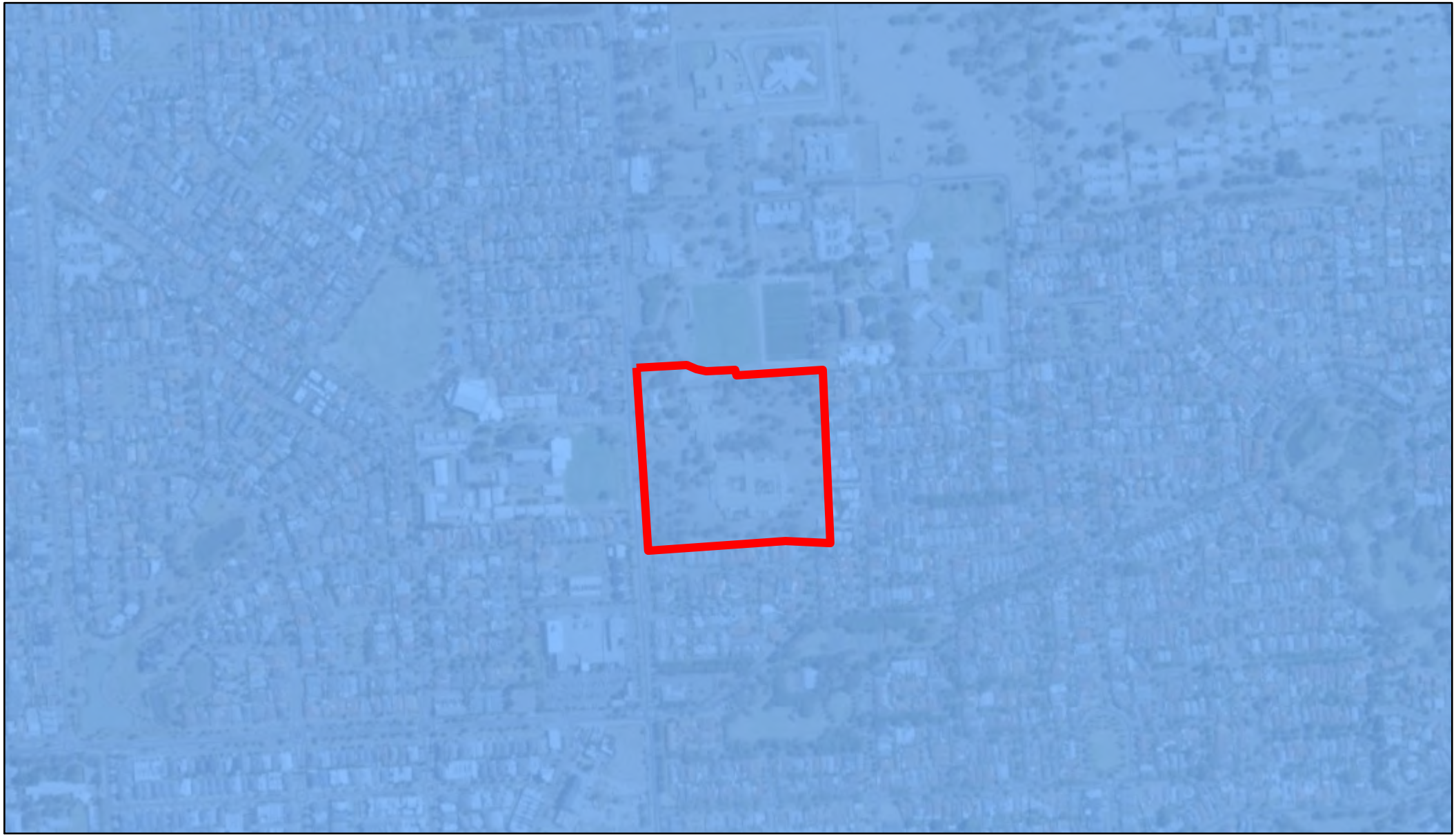
N

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Shallow Groundwater Salinity



April 14, 2019

SOUTH AUSTRALIA

Government of South Australia

- 0-1500 ppm
- 1500-3000 ppm
- 3000-7000 ppm
- 7000-14000 ppm
- 14000-35000 ppm
- >35000 ppm

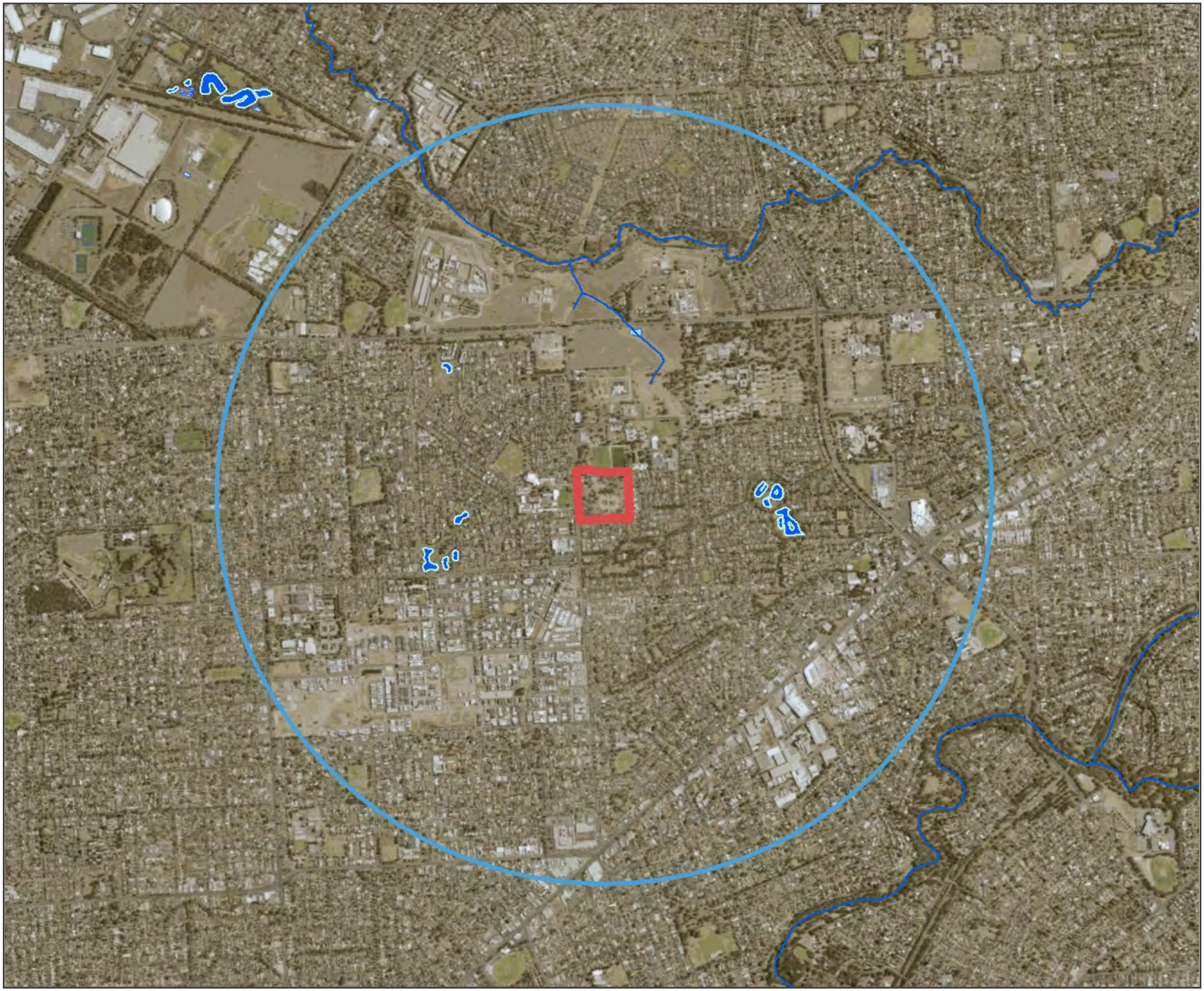
N

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Hydrological Features Within 2 km of Site



Water Courses

Water Bodies

- Dam
- Lake - Intermittent
- Lake - Mainly Dry
- Lake - Perennial
- Land Subject to Flooding (STF)
- Land Subject to Inundation (STI)
- Reservoir

N

0 1.36

Kms

Compiled: 11-Apr-2019
Generated at: www.naturemaps.sa.gov.au
Datum: Geocentric Datum of Australia, 1994
Projection: Web Mercator (Auxiliary Sphere)

Government of South Australia
Department for Environment and Water

Map data is compiled from a variety of sources and hence its accuracy is variable.

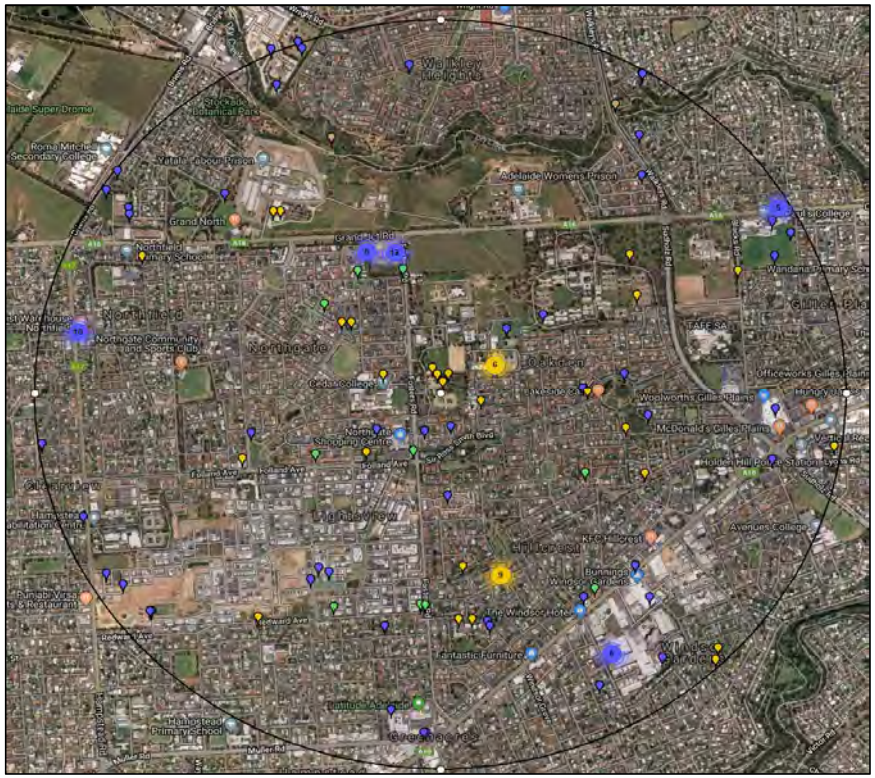
Appendix F

Registered Groundwater Bores

WaterConnect

Government of South Australia

Data Downloaded: 14 April 2019



Single wells by class:

- Water Well
- Mineral Well
- Stratigraphic Well
- Water Point
- Engineering Well
- Seismic Point Well
- Petroleum Well

Multiple wells:

Shows number of wells in cluster. Colours correspond to classes (above).

Appendix F
Registered Groundwater Bore Search Results Summary
Former Oakden Older Mental Health Facility
14 April 2019

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
On-site		6628-11711		ENG		5.7			ABD								138.637493	-34.8544113	D45084	A300	CR 5547 146
		6628-11712		ENG		6.3			ABD								138.637196	-34.8540723	D45084	A300	CR 5547 146
		6628-11710		ENG		4.55			ABD								138.63781	-34.8540213	D45084	A300	CR 5547 146
		6628-11709		ENG		5.75			ABD								138.636966	-34.8537343	D45084	A300	CR 5547 146
220	ESE	6628-14563		ENG		5.25	21/03/1983	INV	ABD	21/03/1983							138.639555	-34.8553623	D70794	A22	CT 5962 289
230	SSE	6628-9605		WW		33.53	24/09/1964		ABD								138.637923	-34.8565923			
260	SSW	6628-25486		WW	Qpah	26	6/10/2010	INV									138.636497	-34.8568043	D41554	A2101	CT 5238 445
290	WNW	6628-9601		ENG		18.1	9/3/1972		UKN	9/3/1972							138.634287	-34.8540793			
310	ENE	6628-11713		ENG		4.3	5/3/1981		ABD								138.640329	-34.8531502	D48652	A353	CT 5906 443
320	NE	6628-11716		ENG		3.5	5/3/1981		ABD								138.639865	-34.8525552	D55895	A110	CT 5834 819
330	NE	6628-11714		ENG		4.5	5/3/1981		ABD								138.640285	-34.8527622	D48652	A353	CT 5906 443
340	NE	6628-11718		ENG		4.9	5/3/1981		ABD								138.640224	-34.8526162	D48652	A353	CT 5906 443
360	NE	6628-11715		ENG		3.75	5/3/1981		ABD								138.640658	-34.8527152	D48652	A353	CT 5906 443
360	NE	6628-11717		ENG		4.9	5/3/1981		ABD								138.6404	-34.8525572	D48652	A353	CT 5906 443
380	SSW	6628-9602		MW		38.1	19/04/1950										138.635932	-34.8577623	S12397		
390	SW	6628-19498		WW	Nb	81	6/3/1999	ENVREC						4216		4	138.633949	-34.8567583			
440	NE	6628-18899		WW	NE	84	11/3/1998	ENVRCL			31	54.83	11/3/1998	2909		10	138.640952	-34.851887	D48652	A353	CT 5906 443
510	SW	6628-9505		ENG													138.633403	-34.8578303	D61375	A811	CT 5889 361
550	NW	6628-11707		ENG		4.6											138.632588	-34.8515573			
590	NW	6628-11708		ENG		4.45											138.632041	-34.8515743	D58828	A336	CT 5866 858
600	S	6628-9606		WW	NE	62.79	16/08/1944		ABD		34.14	47.71	16/08/1944	4390		1.26	138.637751	-34.8599253	D6741	A41	CT 4267 574
630	NE	6628-18900		WW		91	11/3/1998	ENVRCL	ABD	11/3/1998				2944		1.88	138.642912	-34.8512082	D48652	A360	CR 6118 88
640	NNW	6628-9600		MW		39.01	16/05/1950										138.635372	-34.8490423	D54002	A1000	CT 5743 60
700	E	6628-16486		WW	NE	80	14/10/1993	MAROBS	OPQ	11/8/2016				1446	7.7	3.13	138.645051	-34.8547212	D49858	A1378	CT 5576 170
710	NW	6628-9506		MW		13.72	5/7/1950	CMT									138.631115	-34.8506813	D45202	A162	CT 5334 352
720	E	6628-14564		ENG		9	23/03/1983	INV	ABD	23/03/1983							138.645309	-34.8549152			
720	WSW	6628-9504		MW		20.12	28/06/1950	CMT									138.630633	-34.8579474	D45202	A162	CT 5334 352
730	NNW	6628-9599		MW		23.16	12/7/1950										138.632921	-34.8491033	D45202	A162	CT 5334 352
770	NNW	6628-28882		WW		4	14/02/2017	INV			1		14/02/2017				138.634597	-34.8480426	D53642	A501	CT 6136 363
790	NNW	6628-28869		WW		4	10/2/2017	INV			1.5		10/2/2017				138.635173	-34.8477265	D53642	A501	CT 6136 363
790	NNW	6628-28875		WW		3	14/02/2017	INV			1.5		14/02/2017				138.635173	-34.8477265	D53642	A501	CT 6136 363
790	NNW	6628-28868		WW		4	10/2/2017	INV			1.5		10/2/2017				138.634877	-34.8477502	D53642	A501	CT 6136 363
800	NNW	6628-28870		WW		4	14/02/2017	INV			1.5		14/02/2017				138.634981	-34.847624	D53642	A501	CT 6136 363
800	NNW	6628-28880		WW		4	10/2/2017	INV			1.1		10/2/2017				138.634489	-34.8477631	D53642	A501	CT 6136 363
810	NNW	6628-28881		WW		4	10/2/2017	INV			1.2		10/2/2017				138.633998	-34.8477874	D53642	A501	CT 6136 363
820	NNW	6628-28871		WW		3.5	14/02/2017	INV			1.5		14/02/2017				138.634978	-34.8474103	D53642	A501	CT 6136 363
820	NNW	6628-28879		WW		4	9/2/2017	INV									138.633524	-34.8479387	D53642	A501	CT 6136 363
840	NNW	6628-28878		WW		4	9/2/2017	INV			1.2		9/2/2017				138.633349	-34.8477178	D53642	A501	CT 6136 363
850	SE	6628-9619		MW		14.63	13/06/1950										138.645187	-34.8588252	D42140	A4	CR 6181 819
850	NNW	6628-28872		WW		2.5	10/2/2017	INV			0.9		10/2/2017				138.634952	-34.8471934	D53642	A501	CT 6136 363
850	NNW	6628-28876		WW		4	9/2/2017	INV			1.2		9/2/2017				138.633425	-34.8476712	D53642	A501	CT 6136 363
860	NNW	6628-28873		WW		3	14/02/2017	INV			1		14/02/2017				138.634861	-34.8470714	D53642	A501	CT 6136 363
860	NNW	6628-28877		WW		4	9/2/2017	INV			1		9/2/2017				138.633378	-34.8475074	D53642	A501	CT 6136 363
870	NNW	6628-28874		WW		2.5	14/02/2017	INV			1.2		14/02/2017				138.634524	-34.8470863	D53642	A501	CT 6136 363
900	NNW	6628-28883		WW		3.1	14/02/2017	INV									138.633559	-34.8470983	D53642	A501	CT 6136 363
900	NNW	6628-28884		WW		3	9/2/2017	INV			1		9/2/2017				138.63329	-34.8472041	D53642	A501	CT 6136 363
910	E	6628-16186		WW	Qpah	35	10/12/1992	OBSREC	OPQ	11/8/2016	0	79.33		3586	7.7	15	138.647306	-34.8540455	D39600	A2035	CT 5188 829
940	ESE	6628-9621		ENG													138.64738	-34.8566862	D51099	A3001	CR 6118 89
960	WSW	6628-19941		WW	Nb	94	27/11/1999	MAR	NIU	1/9/2016	42.8	30.42	27/11/1999	440		7	138.627167	-34.8569085	D54002	A1501	CT 5958 327
970	S	6628-14565		ENG		9.75	28/03/1983	INV	ABD	28/03/1983							138.638573	-34.8632853	D45391	A501	CT 5374 415
1010	SSE	6628-9607		ENG		4.27	21/10/1952		ABD								138.640597	-34.863279			
1010	SSE	6628-9608		ENG		4.27	22/10/1952		ABD								138.640597	-34.863279			
1010	SSE	6628-9609		ENG		4.27	22/10/1952		ABD								138.640597	-34.863279			
1010	SSE	6628-9610		ENG		4.27	22/10/1952		ABD								138.640597	-34.863279	D91939	A50	CT 6134 65
1010	SSE	6628-9611		ENG		4.27	23/10/1952		ABD								138.640597	-34.863279			
1010	SSE	6628-9612		ENG		4.27	23/10/1952		ABD								138.640597	-34.863279			
1010	SSE	6628-9613		ENG		4.27	23/10/1952		ABD								138.640597	-34.863279	D50041	A2	CT 5571 115
1010	SSE	6628-9614		ENG		4.27	24/10/1952		ABD								138.640597	-34.863279	D41553	A702	CT 5238 416

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
1010	**SSE**	6628-9615		ENG		4.27	24/10/1952		ABD								138.640597	-34.863279	D28260	A63	CT 5144 622
1030	**E**	6628-16185		WW	NE	80.5	5/12/1992	MAR	OPQ	11/8/2016	14	64.36	5/12/1992	1737	7.3	3	138.64856	-34.8560801	D39600	A2035	CT 5188 829
1050	**WSW**	6628-14568		ENG		10.5	30/03/1983	INV	ABD	30/03/1983							138.62669	-34.8581404			
1080	**ENE**	6628-9620		ENG		16.92	9/6/1967		UKN	9/6/1967							138.647957	-34.8502601			
1110	**ESE**	6628-14562		ENG		10.5	21/03/1983	INV	ABD	21/03/1983							138.648423	-34.8588432	F127351	A17	CT 5853 521
1140	**SSW**	6628-23138		WW	N	92	13/12/2006	MAR	NIU	15/09/2016	32	37.66	13/12/2006			8.5	138.631383	-34.8635626	D87125	A9501	CT 6099 822
1140	**SSW**	6628-23187		WW	N	88	21/01/2007	MAR	NIU	15/09/2016	32	37.49	21/01/2007	4454		12.63	138.630831	-34.8633715	D95714	A3001	CT 6152 468
1160	**NE**	6628-6902		ENG		15.24	16/06/1967		UKN	16/06/1967							138.647574	-34.8483331	D113464	A1	CT 6178 201
1170	**S**	6628-9603		MW		45.42	27/05/1950										138.63629	-34.8651163	D45202	A162	CT 5334 352
1180	**S**	6628-9604		MW		17.68	31/03/1950										138.63654	-34.8651573	D45202	A162	CT 5334 352
1210	**NW**	6628-11552		ENG		3.1	6/11/1980		ABD								138.628749	-34.8462363	D51099	A3001	CR 6118 89
1220	**SSW**	6628-23137		WW	N	92	15/12/2006	INVMAR	NIU	15/09/2016	32	36.86	15/12/2006			8.5	138.630377	-34.8639396	D95714	A3001	CT 6152 468
1240	**NW**	6628-11553		ENG		3.05	6/11/1980		ABD								138.628355	-34.8462553	D31644	A12	CR 6185 532
1250	**S**	6628-9616		ENG		15.85	29/03/1965		UKN	29/03/1965							138.638347	-34.8658323	D45881	A12	CT 5398 547
1260	**S**	6628-9617		ENG		29.87	24/03/1965		UKN	24/03/1965							138.639102	-34.8658383	D45202	A162	CT 5334 352
1280	**S**	6628-12588	YAT104	WW	NE	55.5	8/11/1983	OBS	ABD	24/05/1999	15.82	56.38	17/03/1999	523	7.6	0	138.639921	-34.8658903	D52643	A4	CT 5682 514
1300	**SSW**	6628-9507		MW		45.72	23/06/1950	CMT									138.631605	-34.8652414	D40993	A4	CT 5235 274
1310	**S**	6628-12587	YAT103	WW	Qpah(Q1)	8	9/11/1983	OBS	ABD	24/05/1999	7.12	65.11	7/3/1988				138.640045	-34.8661443	D52643	A6	CT 5682 516
1310	**SSW**	6628-19670		WW	Qpah	25	31/08/1999	DRN									138.634391	-34.8661434	D3732	A399	CT 5667 966
1330	**SE**	6628-9618		MW		27.28	8/6/1950		BKF	8/6/1950							138.645707	-34.8643612	D45202	A162	CT 5334 352
1330	**SSE**	6628-19239		WW		14.4	25/08/1998		BKF	25/08/1998							138.645095	-34.8647733	F127348	A14	CT 5613 639
1360	**SE**	6628-27955		WW			8/9/2015		BKF	8/9/2015							138.64789	-34.86326	D115734	A2004	CT 6191 189
1420	**NNW**	6628-6960		WP										2446	7.95		138.631508	-34.8427023	D7629	A41	CT 5427 170
1470	**NW**	6628-13889		WW		119	17/11/1986							3411	7.3	0.62	138.625733	-34.8454114	D57501	A34	CR 5856 565
1490	**NE**	6628-6961		WW		37.19	3/7/1957							4090			138.64825	-34.8445321	D45202	A162	CT 5334 352
1530	**SE**	6628-27957		WW			8/9/2015		BKF	8/9/2015							138.64865	-34.86476	D115734	A2004	CT 6191 189
1530	**SE**	6628-28070		WW			27/08/2014		BKF	27/08/2014							138.647046	-34.8658411	D22852	A2	CT 5885 188
1530	**SW**	6628-14567		ENG		10.5	29/03/1983	INV	ABD	29/03/1983							138.627544	-34.8657214			
1580	**ENE**	6628-14561		ENG		9.75	18/03/1983	INV	ABD	18/03/1983							138.653435	-34.8491131			
1600	**SSE**	6628-28067		WW			27/08/2014		BKF	27/08/2014							138.646935	-34.8666954	D22852	A2	CT 5885 188
1620	**SSE**	6628-21233		WW	T(T1)	19.5	28/03/2003	MON			16	59.92	28/03/2003				138.646613	-34.8670542	D22852	A2	CT 5885 188
1620	**WNW**	6628-14574		ENG		8.2	17/02/1984	INV	ABD	17/02/1984							138.621273	-34.8483974			
1640	**SSE**	6628-28068		WW			27/08/2014		BKF	27/08/2014							138.646888	-34.8671632	D22852	A2	CT 5885 188
1640	**SSE**	6628-28069		WW			29/08/2014		BKF	29/08/2014							138.646379	-34.8673968	D22852	A2	CT 5885 188
1650	**E**	6628-9638		WW		60.96	11/12/1951		BKF	11/12/1951							138.655445	-34.8557691	D45202	A162	CT 5334 352
1650	**NE**	6628-6962		WW		12.19	13/03/1958		ABD								138.64812	-34.8425921	D45881	A10	CT 5398 545
1680	**ESE**	6628-12247	YAT091	WW, ENG	Qpah(Q1)	10.5	24/03/1983	INV	ABD	24/03/1983			18/03/2001				138.655256	-34.8581811	D44150	A200	CT 5548 650
1710	**N**	6628-6959		WW		13.11	7/4/1965	EXP									138.635695	-34.8392492	C40270		
1720	**NNE**	6628-6963		WP										3875			138.646828	-34.8411151	D5518	A576	CT 5751 373
1750	**S**	6628-13189		WW		22	24/02/1984	DOM	OPR								138.634723	-34.8701704	D18930	A1	CT 6177 608
1780	**ENE**	6628-20701		WW	N	108	20/07/2001				24	67.05	20/07/2001			0.05	138.655416	-34.848406	F127388	A54	CT 6075 584
1780	**SSE**	6628-9622		WW	NE	92.96	8/7/1935							656		0.63	138.645979	-34.8689913			
1780	**WNW**	6628-30057		WW		40.5	11/3/2019	ENV									138.620591	-34.8464036	F112327	A73	CT 5258 222
1780	**WNW**	6628-24548		WW		4	20/03/2009	INV	BKF	20/08/2014							138.618197	-34.8512395			
1790	**NNW**	6628-27693		WW		24	20/02/2015	INV									138.628528	-34.8401944	F112517	A1	CT 5682 968
1790	**WNW**	6628-25233		WW		4	18/09/2008	INV	BKF	7/8/2014							138.618135	-34.8514328	D15701	A101	CT 5746 773
1800	**WNW**	6628-30058		WW		32.25	13/02/2019	ENV									138.620545	-34.8460873	F112327	A73	CT 5258 222
1810	**WNW**	6628-22719		WW	Qpah	4	12/10/2005	MON	BKF	20/08/2014	1.21	63.83	12/10/2005				138.617933	-34.8512693			
1810	**WNW**	6628-22717		WW	Qpah	3.5	13/10/2005	MON			0.95	64.19	13/10/2005				138.617804	-34.8515615	F1764	A1	CT 5516 910
1820	**SE**	6628-16876		WW	N	103.6	9/1/1995	IND			18	57.21	9/1/1995	2570	7.3	10	138.649332	-34.8676482	D86892	A52	CT 6094 432
1820	**WNW**	6628-22720		WW	Qpah	4	12/10/2005	MON	BKF	20/08/2014	1.28	63.62	12/10/2005				138.617802	-34.8512776			
1830	**WNW**	6628-25232		WW		4	18/09/2008	INV	BKF	20/08/2014							138.617821	-34.8509327	D5288	A260	CT 5611 546
1830	**WNW**	6628-27614		WW		3.4			BKF	7/8/2014							138.617783	-34.8509766	D5288	A260	CT 5611 546
1830	**WNW**	6628-24549		WW		4	20/03/2009	INV	BKF	20/08/2014							138.617688	-34.8510711			
1840	**WNW**	6628-22718		WW	Qpah	3.5	12/10/2005	MON	BKF	20/08/2014	0.9	63.67	12/10/2005				138.617493	-34.8514			
1850	**ENE**	6628-20700		WW	Nb	100	13/10/2001	IRR						3909	8.1	3.75	138.655279	-34.846699	F127388	A54	CT 6075 584
1850	**S**	6628-29931		WW		15	7/11/2018	INV					7/11/2018				138.63661	-34.87124			
1850	**S**	6628-29932		WW		15	6/11/2018	INV					6/11/2018				138.63647	-34.87125			
1850	**WNW**	6628-27615		WW		3.7			BKF	20/08/2014							138.617457	-34.8512476			
1860	**SW**	6628-12551	YAT100	WW	T	22	25/10/1983	OBS			21.25	40	21/10/1988			2	138.621791	-34.8654228	D117147	A3009	CT 6200 596
1870	**SW**	6628-13016	YAT109	WW	NE	55	27/07/1984	EXPOBS	NL	15/09/2014	1.84	59.31	13/09/2018	3316	7.5	0.44	138.621691	-34.8654352	D117147	A3009	CT 6200 596
1890	**WSW**	6628-26640		WW		35	29/11/2012										138.62025	-34.8641667			
1890	**WSW**	6628-27276		WW		20	14/05/2014		BKF	14/05/2014			14/05/2014				138.618116	-34.8609233	D3418	A5	CT 5122 746
1900	**ENE**	6628-20679		WW		196	20/07/2001	IRR	BKF	20/07/2001	24	69.95	20/07/2001	4537		0.25	138.656269	-34.847277	F127388	A54	CT 6075 584

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
1920	**ENE**	6628-23563		WW		6	27/04/2007	INV	BKF	8/11/2007							138.655287	-34.845501	C28370		
1920	**ENE**	6628-23564		WW		7	27/04/2007	INV	BKF	8/11/2007							138.655315	-34.8455893	C28370		
1920	**ENE**	6628-23565		WW		5	27/04/2007	INV	BKF	8/11/2007							138.655417	-34.8455877	C28370		
1920	**ENE**	6628-23562		WW		6	27/04/2007	INV	BKF	8/11/2007							138.655273	-34.8453828	C28370		
1920	**NNW**	6628-27696		WW		28	18/02/2015	INV									138.629889	-34.8384167	F112517	A1	CT 5682 968
1920	**WSW**	6628-26641		WW		40	29/11/2012										138.619361	-34.8636389	D112575	A2468	CT 6174 143
1930	**NNE**	6628-15259		WW		63	7/3/1990		BKF	7/3/1990							138.648294	-34.839677	D7857	A12	CT 5393 322
1930	**NNE**	6628-15258		WW	Nds	83.8	1/5/1990		BKF	24/05/2002				1917	7.9		138.648252	-34.839622	D7857	A12	CT 5393 322
1940	**ENE**	6628-22796		WW		36	2/2/2006	MON			31.4	63.14	2/2/2006				138.65558	-34.845594	C28370		
1940	**WNW**	6628-28129		WW	NE	31	18/01/2016	INV			29.1		18/01/2016				138.619333	-34.8452357	F112329	A75	CT 5784 824
1950	**NW**	6628-30059		WW		37.5	15/02/2019	ENV									138.619951	-34.8443087	F112330	A76	CT 5819 721
1960	**SE**	6628-9631		ENG		3.05	24/05/1966		UKN	24/05/1966							138.652352	-34.867203	D5924	A81	CT 5521 854
1960	**NNW**	6628-22281		WW		28.3	11/8/2005	MON			25	26.46	11/8/2005				138.629674	-34.8380992	F112517	A1	CT 5682 968
1970	**NNW**	6628-22276		WW		19.1	8/8/2005	MON			13	29.86	8/8/2005				138.628217	-34.8384667	F112517	A1	CT 5682 968
1980	**W**	6628-9502		WW	Qpah	1.83	9/1/1963							4005			138.615872	-34.8574425	D31644	A12	CR 6185 532
1990	**NNW**	6628-26568		WW		20	4/4/2012	INV			20		4/4/2012				138.62942	-34.8378317	F112517	A1	CT 5682 968
2020	**NNW**	6628-22272		WW		27	11/8/2005	MON			19.2	29.07	11/8/2005				138.629389	-34.8375862	F112517	A1	CT 5682 968

Key

-	Unknown
SWL	Standing Water Level
RSWL	Reduced Water Level
TDS	Total Dissolved Solids
m	metres
mg/L	milligrams per litre

Aquifer Key

Nb	Burra Group
Nds	Saddleworth Formation
Qpah	Hindmarsh Clay
Qpah(Q1)	Hindmarsh Clay, (Quaternary aquif
Qpah(Q2)	Hindmarsh Clay, (Quaternary aquif
Tomw(T1)	Port Willunga Formation
Tomw	Port Willunga Formation

Latest Status Key

ABD	Abandoned
BKF	Backfilled
DRY	Dry
GEQ	Geotechnically Equiped
NIU	Not In Use
OPR	Operational
RHB	Rehabilitated
UKN	Unknown

Purpose Key

DOM	Domestic
DOMIF	Domestic/Irrigation
DRN	Drainage
GTH	Geothermal Energy
INV	Investigation
IRR	Irrigation
MON	Monitoring
OBS	Observation

Class Key

ENG	Engineering Well
WW	Water Well
Strat	Stratigraphic

Data Source:
WaterConnect (2019) Groundwater Data Online Database, Department of Environment, Water and Natural Resources, Government of South Australia, viewed 14 April 2019, https://www.waterconnect.sa.gov.au/GD.

Appendix G

Certificates of Title

Crown Record - Volume 5547 Folio 146

Parent Title(s) CR 5351/99, CR 5470/702

Creating Dealing(s) RTD 8369504, RLG 8490615

Title Issued 22/06/1998 **Edition** 3 **Edition Issued** 29/09/2009

Estate Type

CROWN LAND (ALIENATED)

Owner

THE CROWN

Custodian

MINISTER FOR MENTAL HEALTH AND SUBSTANCE ABUSE
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 300 DEPOSITED PLAN 45084
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

TOTAL AREA: 6.455HA (CALCULATED)

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED G(T/F) AND H ON DP 45084 TO THE ETSA CORPORATION (LAND GRANT VOL.4402 FOLIO 751)

TOGETHER WITH THE EASEMENT(S) COMPRISED IN APPLICATION 8490615

Schedule of Dealings

NIL

Schedule of Interests

LAND DEDICATED FOR MENTAL HEALTH SERVICES PURPOSES PURSUANT TO THE CROWN LANDS ACT, 1929 BY GAZETTE 12/02/1998

Notations

Dealings Affecting Title NIL

Priority Notices NIL

Registrar-General's Notes NIL

Administrative Interests

CONFIRMED IN SA HERITAGE REGISTER 14/12/1995

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 of Environment, Water and Natural Resources.

THIS CROWN RECORD IS CANCELLED

THIS EDITION IS CANCELLED

Crown Record - Volume 5241 Folio 34

Parent Title(s)	10 6100/0855				
Creating Dealing(s)	CONVERTED TITLE				
Title Issued	12/01/1995	**Edition**	1	**Edition Issued**	12/01/1995
Title Cancelled	06/02/1995			**Edition Cancelled**	06/02/1995
Child Title(s)	CR 5246/75, CR 5246/76, CR 5246/77				

Estate Type

CROWN LAND (ALIENATED)

Owner

THE CROWN

Custodian

S.A. HEALTH COMMISSION
OF 35 WAYMOUTH STREET ADELAIDE SA 5000

Description of Land

SECTIONS 855 AND 5677
HUNDRED OF YATALA
IN THE AREA NAMED OAKDEN

ALLOTMENT 103 DEPOSITED PLAN 35949
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

TOTAL AREA: 64.88HA (CALCULATED)

DIAGRAM BOOK PAGES 454.546 AND 580

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7866337	REQUEST FOR NEW TITLES

THIS CROWN RECORD IS CANCELLED

THIS EDITION IS CANCELLED

Crown Record - Volume 5246 Folio 76

Parent Title(s)	CR 5241/34				
Creating Dealing(s)	RT 7866337				
Title Issued	06/02/1995	**Edition**	1	**Edition Issued**	06/02/1995
Title Cancelled	12/07/1996			**Edition Cancelled**	12/07/1996
Child Title(s)	CR 5351/99				

Estate Type

CROWN LAND (ALIENATED)

Owner

THE CROWN

Custodian

SOUTH AUSTRALIAN HEALTH COMMISSION
OF ADELAIDE SA 5000

Description of Land

SECTION 5677
HUNDRED OF YATALA
IN THE AREA NAMED OAKDEN

TOTAL AREA: 2.521HA (CALCULATED)

DIAGRAM BOOK PAGE 580

Easements

NIL

Schedule of Dealings

Dealing Number	Description
8067375	REQUEST FOR NEW TITLES - DEPOSITED PLAN

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 of Environment, Water and Natural Resources.

THIS CROWN RECORD IS CANCELLED

THIS EDITION IS CANCELLED

Crown Record - Volume 5246 Folio 77

Parent Title(s)	CR 5241/34				
Creating Dealing(s)	RT 7866337				
Title Issued	06/02/1995	**Edition**	2	**Edition Issued**	08/02/1995
Title Cancelled	29/03/1995			**Edition Cancelled**	29/03/1995
Child Title(s)	CT 5258/353, CR 5258/354				

Estate Type

CROWN LAND (UNALIENATED)

Owner

THE CROWN

Custodian

MINISTER FOR ENVIRONMENT AND CONSERVATION
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 103 DEPOSITED PLAN 35949
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

TOTAL AREA: 60.07HA (CALCULATED)

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7871286	VESTING MERGING CLOSED ROAD

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 of Environment, Water and Natural Resources.

THIS CROWN RECORD IS CANCELLED

THIS EDITION IS CANCELLED

Crown Record - Volume 5351 Folio 99

Parent Title(s)	CR 5246/76, CR 5258/354				
Creating Dealing(s)	RTD 8067375				
Title Issued	12/07/1996	**Edition**	1	**Edition Issued**	12/07/1996
Title Cancelled	22/06/1998			**Edition Cancelled**	22/06/1998
Child Title(s)	CR 5547/146				

Estate Type

CROWN LAND (ALIENATED)

Owner

THE CROWN

Custodian

MINISTER FOR HUMAN SERVICES
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 300 DEPOSITED PLAN 45084
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

TOTAL AREA: 6.455HA (CALCULATED)

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED C ON DP 45084 FOR DRAINAGE PURPOSES (RTD 8067375)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED D ON DP 45084 FOR SEWERAGE PURPOSES (RTD 8067375)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED G(T/F) AND H ON DP 45084 TO THE ETSA CORPORATION (RTD 8067375)

TOGETHER WITH EASEMENT(S) OVER THE LAND MARKED A AND E ON DP 45084 FOR SEWERAGE PURPOSES (RTD 8067375)

TOGETHER WITH EASEMENT(S) OVER THE LAND MARKED B ON DP 45084 FOR DRAINAGE PURPOSES (RTD 8067375)

Schedule of Dealings

Dealing Number	Description
8369504	REQUEST FOR NEW TITLES - DEPOSITED PLAN
8490615	REQUEST FOR LAND GRANT

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 of Environment, Water and Natural Resources.

THIS CROWN RECORD IS CANCELLED

THIS EDITION IS CANCELLED

Crown Record - Volume 5351 Folio 100

Parent Title(s)	CR 5258/354				
Creating Dealing(s)	RTD 8067375				
Title Issued	12/07/1996	**Edition**	1	**Edition Issued**	12/07/1996
Title Cancelled	13/11/1997			**Edition Cancelled**	13/11/1997
Child Title(s)	CT 5470/701, CR 5470/702				

Estate Type

CROWN LAND (UNALIENATED)

Owner

THE CROWN

Custodian

MINISTER FOR ENVIRONMENT AND CONSERVATION
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 301 DEPOSITED PLAN 45084
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

TOTAL AREA: 49.65HA (CALCULATED)

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED B ON DP 45084 FOR DRAINAGE PURPOSES (RTD 8067375)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED E ON DP 45084 FOR SEWERAGE PURPOSES (RTD 8067375)

TOGETHER WITH EASEMENT(S) OVER THE LAND MARKED A AND D ON DP 45084 FOR SEWERAGE PURPOSES (RTD 8067375)

TOGETHER WITH EASEMENT(S) OVER THE LAND MARKED C AND F ON DP 45084 FOR DRAINAGE PURPOSES (RTD 8067375)

Schedule of Dealings

Dealing Number	Description
8247145	REQUEST FOR PLAN APPROVAL / FILING
8341495	REQUEST FOR LAND GRANT
8369505	REQUEST FOR PLAN APPROVAL / FILING

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 of Environment, Water and Natural Resources.

THIS CROWN RECORD IS CANCELLED

THIS EDITION IS CANCELLED

Crown Record - Volume 5470 Folio 702

Parent Title(s)	CR 5351/100				
Creating Dealing(s)	RLG 8341495				
Title Issued	13/11/1997	**Edition**	1	**Edition Issued**	13/11/1997
Title Cancelled	22/06/1998			**Edition Cancelled**	22/06/1998
Child Title(s)	CT 5547/125, CT 5547/126, CT 5547/127, CT 5547/128 AND OTHERS				

Estate Type

CROWN LAND (UNALIENATED)

Owner

THE CROWN

Custodian

MINISTER FOR ENVIRONMENT AND CONSERVATION
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 301 DEPOSITED PLAN 45084
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

TOTAL AREA: 49.65HA (CALCULATED)

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED B ON DP 45084 FOR DRAINAGE PURPOSES (RTD 8067375)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED E ON DP 45084 FOR SEWERAGE PURPOSES (RTD 8067375)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED J ON FP 38429 (RLG 8341495)

TOGETHER WITH EASEMENT(S) OVER THE LAND MARKED A AND D ON DP 45084 FOR SEWERAGE PURPOSES (RTD 8067375)

TOGETHER WITH EASEMENT(S) OVER THE LAND MARKED C AND F ON DP 45084 FOR DRAINAGE PURPOSES (RTD 8067375)

Schedule of Dealings

Dealing Number	Description
8369504	REQUEST FOR NEW TITLES - DEPOSITED PLAN
8490611	REQUEST FOR LAND GRANT
8490612	REQUEST FOR LAND GRANT

8490613	REQUEST FOR LAND GRANT
8490614	REQUEST FOR LAND GRANT
8490615	REQUEST FOR LAND GRANT
8490616	REQUEST FOR LAND GRANT
8490617	REQUEST FOR LAND GRANT
8490618	REQUEST FOR LAND GRANT
8490619	REQUEST FOR LAND GRANT
8490620	REQUEST FOR LAND GRANT
8490621	REQUEST FOR LAND GRANT
8490622	REQUEST FOR LAND GRANT
8490623	REQUEST FOR LAND GRANT
8490624	REQUEST FOR LAND GRANT

ORIGINAL
LAND GRANT

South Australia

REGISTER BOOK
Volume 4382 Folio 277

Deputy Registrar-General

GRANT OF EASEMENT

THE MINISTER OF LANDS DOTH HEREBY on behalf of THE CROWN and by virtue of the provisions of the Crown Lands Act, 1929 and of all other powers thereunto enabling her GRANT UNTO THE ELECTRICITY TRUST OF SOUTH AUSTRALIA hereinafter called the Grantee a Right of Way and Easement over portion of Section 873 delineated in L.T.R.O. Filed Plan No. 31164 thereon marked A portion of Section 740 delineated in L.T.R.O. Filed Plan No. 31162 thereon marked B portions of Section 870 delineated in L.T.R.O. Filed Plan No. 31163 thereon marked A B and C and portions of Allotment 13 of Section 906 and other land (L.T.R.O. Deposited Plan No. 31644) thereon marked A situate in the Hundred of YATALA County of ADELAIDE the said plans filed and deposited in the Department of Lands at Adelaide and in the manner following, that is to say:-

TO THE GRANTEE ITS SUCCESSORS AND ASSIGNS AND ITS AND THEIR RESPECTIVE SERVANTS AGENTS AND LICENSEES AND ALL OTHERS AUTHORIZED BY THEM OR ANY OF THEM AT ALL TIMES HEREAFTER AND FROM TIME TO TIME FULL AND FREE RIGHT LIBERTY LICENCE POWER AND AUTHORITY:

1. To enter upon and to pass either with or without motor or other vehicles laden or unladen along or over the subject land

2. To erect and lay on the subject land poles towers conductors and other works for the transmission of electricity and to inspect repair alter remove and replace the same

3. To transmit electricity by means of such works

TO HOLD unto and to the use of the Grantee its Successors and Assigns for ever

Exd.

Certified correct,

. . . . . .
Chief Documentary Officer

The Common Seal of The Minister of Lands was affixed hereto this 17th day of June 1991 by the authority of the Minister in the presence of:

. . . . . .

MINISTER OF LANDS
SOUTH AUSTRALIA

OVER

TRANSFER 7505591 to SOUTH AUSTRALIAN URBAN LAND TRUST of 3 UNDIVIDED 5TH PARTS and SOUTH AUSTRALIAN HOUSING TRUST of 2 UNDIVIDED 5TH PARTS in the within Easement marked A FP 31164 Produced 25.5.1993 at 10:55

CANCELLED as regards above land and New C.T. issued VOL. 5134 FOL. ~~311 - 406 incl~~ 411 412.

CANCELLED

AND BALANCE CERTIFICATE OF TITLE ISSUED VIDE 7505591 VOL 5134 FOL 410.

ORIGINAL
LAND GRANT

South Australia

REGISTER BOOK
Volume 4391 Folio 812

Deputy Registrar-General

Comprising 2 Sheets

HER EXCELLENCY THE GOVERNOR in consideration of five million two hundred and sixty one thousand nine hundred and sixty eight dollars ($5 261 968-00) heretofore paid to the Treasurer by SOUTH AUSTRALIAN URBAN LAND TRUST care of General Post Office Box 698 Adelaide 5001 as to three undivided fifth parts and SOUTH AUSTRALIAN HOUSING TRUST care of General Post Office Box 1669 Adelaide 5001 as to two undivided fifth parts hereinafter called the Grantees doth hereby in the name and on behalf of HER MAJESTY pursuant to the power vested in her by Section 228b of the Crown Lands Act 1929 and any other power her thereunto enabling GRANT unto the Grantees ALL those Sections of land containing sixty six point six one (66.61) hectares or thereabouts situate in the Hundred of YATALA County of ADELAIDE and numbered 789 and 873 and delineated in L.T.R.O. Filed Plan No.31164 filed in the Department of Lands at ADELAIDE and in the plan annexed hereto TO HOLD unto and to the use of the Grantees their Successors and Assigns for ever.

SUBJECT TO the Easement over Section 873 marked A on the said plan to The Electricity Trust of South Australia (Land Grant Volume 4382 Folio 277)

GIVEN under the hand of the Governor and the Public Seal of South Australia this sixth day of November one thousand nine hundred and ninety one

Exd.
D.L. 2279/37

Certified correct

Chief Documentary Officer

BY COMMAND,

The Minister of Lands

An Easement over PORTION of the within land is vested in SOUTH AUSTRALIAN URBAN LAND TRUST of THREE UNDIVIDED FIFTH PARTS and SOUTH AUSTRALIAN HOUSING TRUST of TWO UNDIVIDED FIFTH PARTS Produced 5.3.1993 at 11:45 vide Application 7461973

REGISTRAR-GENERAL SOUTH AUSTRALIA

CANCELLED as regards above land and New C.T. issued VOL. 5116 FOL. 768

REGISTRAR-GENERAL SOUTH AUSTRALIA

Cancelled as regards that portion of the within land comprised in Deposited Plan 36399 (RT 7445975) and new Certificates issued Vol. 5116 Folios 685-779 inc.

REGISTRAR-GENERAL SOUTH AUSTRALIA

Cancelled as regards that portion of the within land comprised in Deposited Plan 36400 (RT 7445976) and new Certificates issued Vol. 5116 Folios 780-784 inc.

REGISTRAR-GENERAL SOUTH AUSTRALIA

Portion of the within land as is comprised in Allotment 6 100 to 104 inc. in D.P. 36399 is vested as a reserve in The Corporation of the City of Enfield vide Sec. 223le of the Real Property Act 1886 as amended CANCELLED AS REGARDS THE ABOVE LAND AND NEW CERTIFICATE OF TITLE ISSUED Volume 5116 Folio 785-789 inc.

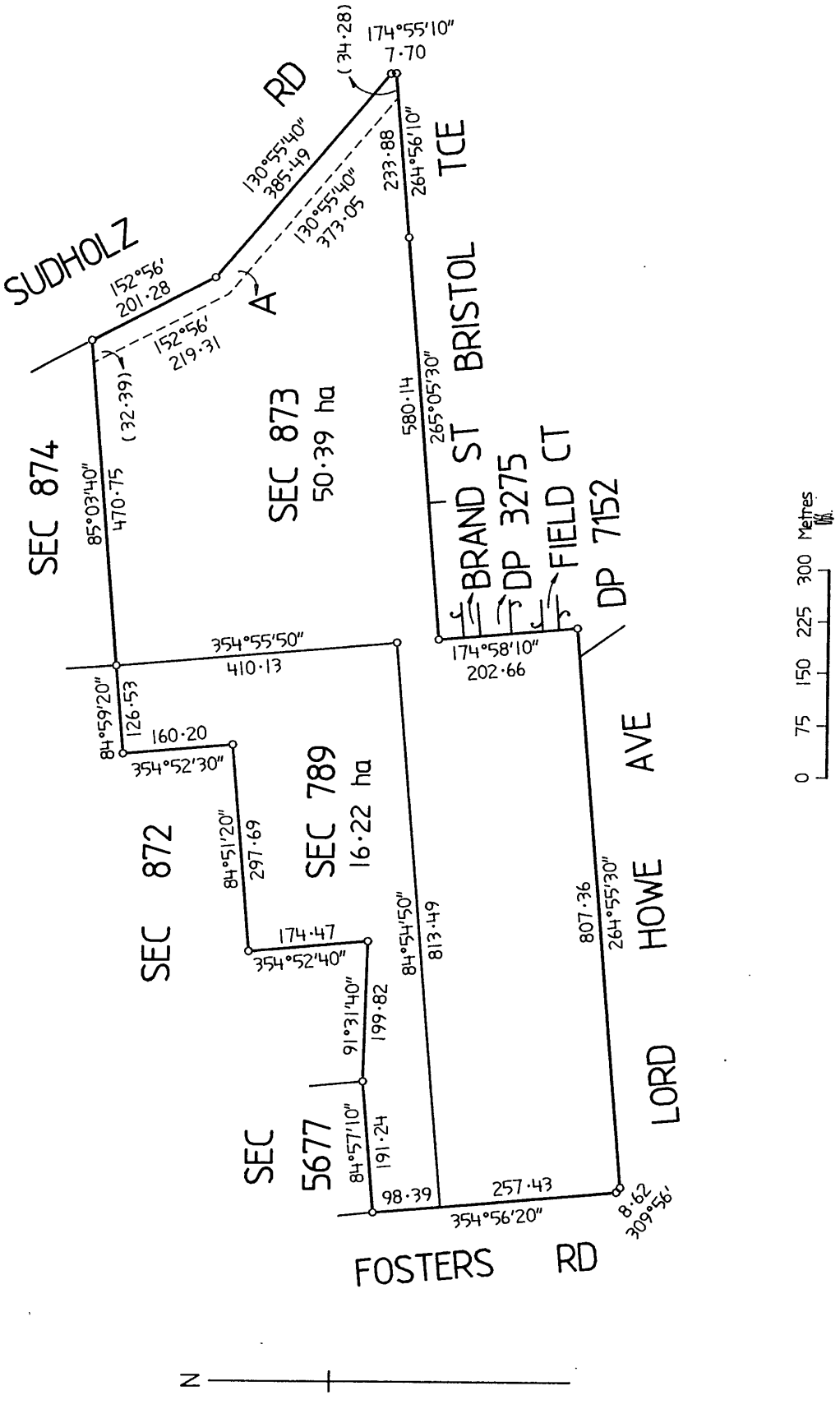
REGISTRAR-GENERAL SOUTH AUSTRALIA

VOL 4391 FOL 812

Balance

~~Portion~~ of the within land as is comprised in
Allotments 106 to 114 inc
in D.P. 36399 is vested as public road in
The Corporation of the City of Enfield
vide Sec. 223le of the Real Property Act 1886 as amended
CANCELLED AS REGARDS THE ABOVE LAND
AND NEW CERTIFICATE OF TITLE ISSUED
Volume 5116 Folio 790

Sheet 2


SUDHOLZ RD
TCE
BRISTOL
BRAND ST
DP 3275
FIELD CT
DP 7152
AVE
HOWE
LORD
FOSTERS RD
SEC 874
SEC 873
50·39 ha
SEC 872
SEC 789
16·22 ha
SEC 5677
A
174°55'10"
7·70
(34·28)
130°55'40"
385·49
233·88
264°56'10"
130°55'40"
373·05
152°56'
201·28
152°56'
219·31
(32·39)
85°03'40"
470·75
580·14
265°05'30"
354°55'50"
410·13
174°58'10"
202·66
84°59'20"
126·53
160·20
354°52'30"
84°51'20"
297·69
174·47
354°52'40"
91°31'40"
199·82
84°54'50"
813·49
807·36
264°55'30"
84°57'10"
191·24
98·39
257·43
354°56'20"
8·62
309°56'
0 75 150 225 300 Metres
N

REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

THIS TITLE IS CANCELLED

THIS EDITION IS CANCELLED

Certificate of Title - Volume 5134 Folio 407

Parent Title(s)	CT 4382/277, CT 5116/779				
Creating Dealing(s)	RTD 7504860, T 7505591				
Title Issued	27/07/1993	**Edition**	1	**Edition Issued**	27/07/1993
Title Cancelled	29/10/1993			**Edition Cancelled**	29/10/1993
Child Title(s)	CT 5152/82, CT 5152/83, CT 5152/84, CT 5152/85 AND OTHERS				

Estate Type

FEE SIMPLE

Registered Proprietor

SOUTH AUSTRALIAN URBAN PROJECTS AUTHORITY
OF ADELAIDE SA 5000
3 / 5 SHARE

SOUTH AUSTRALIAN HOUSING TRUST
OF ADELAIDE SA 5000
2 / 5 SHARE

Description of Land

ALLOTMENT 1008 DEPOSITED PLAN 37202
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

Easements

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED E ON DP 37202 FOR SEWERAGE PURPOSES TO SOUTH AUSTRALIAN WATER CORPORATION (223LG RPA)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED D AND F ON DP 37202 FOR WATER SUPPLY PURPOSES TO SOUTH AUSTRALIAN WATER CORPORATION (223LG RPA)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED B AND C(T/F) ON DP 37202 FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

Schedule of Dealings

Dealing Number	Description
7565507	REQUEST FOR NEW TITLES - DEPOSITED PLAN

REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

THIS TITLE IS CANCELLED

THIS EDITION IS CANCELLED

Certificate of Title - Volume 5152 Folio 159

Parent Title(s)	CT 5134/407				
Creating Dealing(s)	RTD 7565507				
Title Issued	29/10/1993	**Edition**	1	**Edition Issued**	29/10/1993
Title Cancelled	18/02/1994			**Edition Cancelled**	18/02/1994
Child Title(s)	CT 5170/449, CT 5170/450, CT 5170/451, CT 5170/452 AND OTHERS				

Estate Type

FEE SIMPLE

Registered Proprietor

SOUTH AUSTRALIAN URBAN PROJECTS AUTHORITY
OF ADELAIDE SA 5000
3 / 5 SHARE

SOUTH AUSTRALIAN HOUSING TRUST
OF ADELAIDE SA 5000
2 / 5 SHARE

Description of Land

ALLOTMENT 1025 DEPOSITED PLAN 38011
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

Easements

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED D ON DP 38011 FOR WATER SUPPLY PURPOSES TO SOUTH AUSTRALIAN WATER CORPORATION (223LG RPA)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED B.C(T/F) AND H(T/F) ON DP 38011 FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

Schedule of Dealings

Dealing Number	Description
7630144	REQUEST FOR NEW TITLES - DEPOSITED PLAN
7630145	REQUEST FOR NEW TITLES - DEPOSITED PLAN

REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

THIS TITLE IS CANCELLED

THIS EDITION IS CANCELLED

Certificate of Title - Volume 5170 Folio 531

Parent Title(s)	CT 5152/159				
Creating Dealing(s)	RTD 7630145				
Title Issued	18/02/1994	**Edition**	1	**Edition Issued**	18/02/1994
Title Cancelled	01/03/1994			**Edition Cancelled**	01/03/1994
Child Title(s)	CT 5172/373, CT 5172/374, CT 5172/375, CT 5172/376 AND OTHERS				

Estate Type

FEE SIMPLE

Registered Proprietor

SOUTH AUSTRALIAN URBAN PROJECTS AUTHORITY
OF ADELAIDE SA 5000
3 / 5 SHARE

SOUTH AUSTRALIAN HOUSING TRUST
OF ADELAIDE SA 5000
2 / 5 SHARE

Description of Land

ALLOTMENT 2009 DEPOSITED PLAN 38915
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

Easements

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED H(T/F) FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

Schedule of Dealings

Dealing Number	Description
7654314	REQUEST FOR NEW TITLES - DEPOSITED PLAN

REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

THIS TITLE IS CANCELLED

THIS EDITION IS CANCELLED

Certificate of Title - Volume 5172 Folio 427

Parent Title(s)	CT 4400/442, CT 5170/531				
Creating Dealing(s)	RTD 7654314				
Title Issued	01/03/1994	**Edition**	1	**Edition Issued**	01/03/1994
Title Cancelled	23/05/1994			**Edition Cancelled**	23/05/1994
Child Title(s)	CT 5188/694, CT 5188/695, CT 5188/696, CT 5188/697 AND OTHERS				

Estate Type

FEE SIMPLE

Registered Proprietor

SOUTH AUSTRALIAN URBAN PROJECTS AUTHORITY
OF ADELAIDE SA 5000
3 / 5 SHARE

SOUTH AUSTRALIAN HOUSING TRUST
OF ADELAIDE SA 5000
2 / 5 SHARE

Description of Land

ALLOTMENT 2018 DEPOSITED PLAN 39197
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

Easements

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED H(T/F) ON DP 39197 FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

Schedule of Dealings

Dealing Number	Description
7686967	REQUEST FOR NEW TITLES - DEPOSITED PLAN
7686968	REQUEST FOR NEW TITLES - DEPOSITED PLAN
7686969	REQUEST FOR NEW TITLES - DEPOSITED PLAN

REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

THIS TITLE IS CANCELLED

THIS EDITION IS CANCELLED

Certificate of Title - Volume 5188 Folio 828

Parent Title(s)	CT 5172/427				
Creating Dealing(s)	RTD 7686969				
Title Issued	23/05/1994	**Edition**	1	**Edition Issued**	23/05/1994
Title Cancelled	29/03/1995			**Edition Cancelled**	29/03/1995
Child Title(s)	CT 5258/353, CR 5258/354, CR 5258/355				

Estate Type

FEE SIMPLE

Registered Proprietor

SOUTH AUSTRALIAN URBAN PROJECTS AUTHORITY
OF ADELAIDE SA 5000
3 / 5 SHARE

SOUTH AUSTRALIAN HOUSING TRUST
OF ADELAIDE SA 5000
2 / 5 SHARE

Description of Land

ALLOTMENT 2049 DEPOSITED PLAN 39601
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7788417	REQUEST FOR NEW TITLES - DEPOSITED PLAN
7871285	TRANSFER

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 of Environment, Water and Natural Resources.

THIS CROWN RECORD IS CANCELLED

THIS EDITION IS CANCELLED

Crown Record - Volume 5258 Folio 354

Parent Title(s)	CT 5188/828, CR 5246/77				
Creating Dealing(s)	RTD 7788417, T 7871285, VM 7871286				
Title Issued	29/03/1995	**Edition**	1	**Edition Issued**	29/03/1995
Title Cancelled	12/07/1996			**Edition Cancelled**	12/07/1996
Child Title(s)	CR 5351/99, CR 5351/100, CR 5351/101				

Estate Type

CROWN LAND (UNALIENATED)

Owner

THE CROWN

Custodian

MINISTER FOR ENVIRONMENT AND CONSERVATION
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 2103 DEPOSITED PLAN 40980
IN THE AREA NAMED OAKDEN
HUNDRED OF YATALA

TOTAL AREA: 60.13HA (CALCULATED)

Easements

NIL

Schedule of Dealings

Dealing Number	Description
8067375	REQUEST FOR NEW TITLES - DEPOSITED PLAN

Appendix H

Historical Aerial Photographs

AERIAL 1949

SURVEY / FRAME: 00007 / 00175
DATE: JANUARY 1949
AERIAL PHOTOGRAPH

AECOM

N

0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

AERIAL 1959

SURVEY / FRAME: 00326 / 09491
DATE: JANUARY 1959
AERIAL PHOTOGRAPH

AECOM

N

0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

AERIAL 1968

SURVEY / FRAME: 1125 / 09990
DATE: NOVEMBER 1968
AERIAL PHOTOGRAPH

AECOM

N

0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

Disclaimer:
AECOM has exercised all due care in the preparation of this map. AECOM makes no warranty or representation to the Client or third parties (express or implied) in respect of the information conveyed on this map, particularly with regard to any commercial investment decision made on the basis of this map. Use of this map by the Client or third parties shall be at their own risk, and extracts from this map may only be published with permission of AECOM. This disclaimer must be visible in every copy of this map.

P:\606X\60603737\900_CAD_GIS\920_GIS\FIGURES\MXD\60603737-1968.mxd Date Saved: 15/04/2019

AERIAL 1979

SURVEY / FRAME: 2409 / 043
DATE: MARCH 1979
AERIAL PHOTOGRAPH

AECOM

N

0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

Disclaimer:
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P:\606X\606603737\900_CAD_GIS\920_GIS\FIGURES\MXD\606603737-1979.mxd Date Saved: 15/04/2019

AERIAL 1989

SURVEY / FRAME: 4108 / 00117
DATE: AUGUST 1989
AERIAL PHOTOGRAPH

AECOM

N

0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

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P:\606X\606037377\900_CAD_GIS\920_GIS\FIGURES\MXD\606037377-1988.mxd Date Saved: 15/04/2019

AERIAL 1999

SURVEY / FRAME: 5717 / 00638
DATE: AUGUST 1999
AERIAL PHOTOGRAPH

AECOM

N 0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

Disclaimer:
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P:\606X\606037377\900_CAD_GIS\9.20_GIS\FIGURES\MXD\606037377-1999.mxd Date Saved: 15/04/2019

AERIAL 2005

SURVEY / FRAME: 7012 / 00174
DATE: JANUARY 2005
AERIAL PHOTOGRAPH

AECOM

N 0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

Disclaimer:
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P:\606X\606037377\900_CAD_GIS\920_GIS\FIGURES\MXD\606037377-2006.mxd Date Saved: 15/04/2019

AERIAL 2009

NEARMAP
DATE: OCTOBER 2009
AERIAL PHOTOGRAPH

AECOM

N 0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

AERIAL 2019

NEARMAP
DATE: MARCH 2019
AERIAL PHOTOGRAPH

AECOM

N 0 10 20 30 40 m

Legend

Site Boundary

Data Sources:
- Department of Environment & Water (DEW) Imagery

Disclaimer:
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P:\606X\606037376\00_CAD_GIS\9.20_GIS\FIGURES\MXD\606037376-2019.mxd Date Saved: 15/04/2019

Appendix I

SA EPA Section 7 Search

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 : 8055 (53186)

AECOM
Level 28
91 King William Street
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

16 April, 2019

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 5547 Folio 146
Address 200-202 Fosters Road, OAKDEN SA 5086

Summary of land use:
Hospital

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

PARTICULARS OF MORTGAGES, CHARGES AND PRESCRIBED ENCUMBRANCES AFFECTING THE LAND

7. Environment Protection Act 1993

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

7.1	Section 59 - Environment performance agreement that is registered in relation to the land.	NO
7.2	Section 93 - Environment protection order that is registered in relation to the land.	NO
7.3	Section 93A - Environment protection order relating to cessation of activity that is registered in relation to the land.	NO
7.4	Section 99 - Clean-up order that is registered in relation to the land.	NO
7.5	Section 100 - Clean-up authorisation that is registered in relation to the land.	NO
7.6	Section 103H - Site contamination assessment order that is registered in relation to the land.	NO
7.7	Section 103J - Site remediation order that is registered in relation to the land.	NO

7.8	Section 103N - Notice of declaration of special management area in relation to the land (due to possible existence of site contamination).	NO
7.9	Section 103P - Notation of site contamination audit report in relation to the land.	NO
7.10	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 *Environment Protection Act 1993* to conduct, at the land-	
i)	a waste or recycling depot (as referred to in clause 3(3) of Schedule 1 Part A of that Act); or	NO
ii)	activities producing listed wastes (as referred to in clause 3(4) of Schedule 1 Part A of that Act); or	NO
iii)	any other prescribed activity of environmental significance under Schedule 1 of that Act?	NO
b)	details of a licence no longer in force issued under Part 6 of the *Environment Protection Act 1993* to conduct, at the land-	
i)	a waste or recycling depot (as referred to in clause 3(3) of Schedule 1 Part A of that Act); or	NO
ii)	activities producing listed wastes (as referred to in clause 3(4) of Schedule 1 Part A of that Act); or	**YES**
iii)	any other prescribed activity of environmental significance under Schedule 1 of that Act?	NO
c)	details of a current exemption issued under Part 6 of the *Environment Protection Act 1993* 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 *Environment Protection Act 1993* 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 *South Australian Waste Management Commission Act 1979* to operate a waste depot at the land?	NO
f)	details of a licence issued under the repealed *Waste Management Act 1987* to operate a waste depot at the land?	NO
g)	details of a licence issued under the repealed *South Australian Waste Management Commission Act 1979* to produce waste of a prescribed kind (within the meaning of that Act) at the land?	**YES**

h)	details of a licence issued under the repealed *Waste Management Act 1987* to produce prescribed waste (within the meaning of that Act) at the land?	**YES**

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 *Environment Protection Act 1993*)?	NO
b)	details of site contamination notified to the EPA under section 83A of the *Environment Protection Act 1993*?	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?	**YES**
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 *Environment Protection Act 1993* 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 *Environment Protection Act 1993?*	NO
g)	details of an agreement entered into with the EPA relating to an approved voluntary site remediation proposal under section 103K of the *Environment Protection Act 1993?*	NO
h)	details of a notification under section 103Z(1) of the *Environment Protection Act 1993* relating to the commencement of a site contamination audit?	NO
i)	details of a notification under section 103Z(2) of the *Environment Protection Act 1993* relating to the termination before completion of a site contamination audit?	NO
j)	details of records, held by the former *South Australian Waste Management Commission* under the repealed *Waste Management Act 1987*, 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 *South Australian Health Commission* (under the repealed *South Australian Health Commission Act 1976*)?	**YES**
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 *Environment Protection Act 1993?*	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 *Environment Protection Act 1993*?	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

Details and/or copies of environmental assessments, licences,exemptions and records on the Public Register may be obtained from the Environment Protection Authority.

Prior to arranging an examination and/or copies of the required above information please telephone (08) 8204 9128 to contact the Public Register Administrator to ensure the required details are available upon arrival.

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 and therefore the EPA cannot confirm the accuracy of the historical information provided.

File Reference: EPA/2804; P0322; SC16178

NOTE

This parcel of land was used by a business or company who in the course of an industrial or commercial process or a teaching or research activity produced prescribed (hazardous) waste.

Waste Produced

Medical Wastes

ENVIRONMENT PROTECTION AUTHORITY

South Australia

LICENCE

EPA Licence No: 2804

Licence Co-ordinator: Graham Burgan (8204 9401)

Environmental Authorisation under Part 6 of the Environment Protection Act, 1993

South Australian Health Commission

Postal Address P.O. Box 17
EASTWOOD SA 5063

is hereby issued a

Licence to undertake a prescribed activity of environmental significance under Section 36 of the Environment Protection Act, 1993.

The Licensee/s: South Australian Health Commission

Is authorised to undertake the following activity(s) of environmental significance referred to under Schedule 1 of the Act, subject to the conditions below and the Environment Protection Act, 1993 (the Act).

3(4) Activities Producing Listed Waste

carried on at

Mental Health Services for Older People Fosters Road, OAKDEN 5086 SA (the Premises)

This licence will commence on: 01 APR 1999

It will expire on: 31-JAN-2001

This licence shall remain in force until the expiry date unless sooner suspended, cancelled or surrendered. It is subject to the following conditions, which must be complied with no later than the date of commencement of this licence unless provided for on the right hand side of the condition in the column marked compliance date.

Conditions: **Compliance Date:**

400-262 Definitions

"Act" means the Environment Protection Act SA 1993 as amended.

"ADG Code" means the Australian Dangerous Goods Code 6th edition.

"Agency" means the body in a State or Territory responsible for administering environment legislation or a body or bodies nominated for that purpose.

"Consignment Authorisation" means an approval which includes a unique identifier granted by an agency or a facility delegated by an agency in the jurisdiction of destination to allow the movement of controlled waste.

"Controlled Waste" means any waste in List 1a or List 1b provided that the waste possesses one or more of the characteristics in List 2. Unless otherwise demonstrated to the satisfaction of the agency in the jurisdiction of destination, wastes in List 1 are considered to possess one or more of the characteristics in List 2.

[Note: Controlled waste for the purposes of this licence and the Environment Protection Act, includes all Listed Waste except the following waste substances;
(i) any waste that is a substance within the meaning of the Dangerous Substances Act 1979; and
(ii) any waste that is a poison within the meaning of the Drugs Act 1908.]

"EPA" means the Environment Protection Authority of South Australia.

"Facility" means a place where Controlled wastes are received.

"Listed Waste" means any waste set out in Part B of Schedule 1 of the Environment Protection Act 1993

"Measure" means the National Environment Protection (Movement of Controlled Wastes across State and Territory Boundaries) Measure.

"Medical Waste" is defined in the Environment Protection (Waste Management) Policy 1994 and includes Clinical Wastes as referred to in Australian Standard 3816 Management of Clinical and Related Wastes.

"Producer" means a person who produces Controlled Waste or a person authorised by an agency in the jurisdiction where the Controlled Waste is produced, to act on behalf of the producer.

"Related Wastes" means Cytotoxic waste, Pharmaceutical waste and Chemical waste referred to in Australian Standard 3816 Management of Clinical and Related Wastes.

"Worksafe Code of Practice for Asbestos" means the Code Of Practice and Guidance Notes for Asbestos published by Worksafe Australia dated August 1988.

400-211 If the name and/or address of the Licensee changes, then the Licensee must inform the Environment Protection Authority within one (1) month of the change occurring.

400-213 1. The last date for an application for renewal of this licence is sixty (60) days before expiry.

2. The last date for payment of the licence fee for a renewed licence period is thirty (30) days before expiry.

400-214 A copy of this licence is to be displayed on a notice board or other suitable place at each place named as a site on which the licensed activities are to be undertaken.

80-35

CONDITIONS OF LICENCE APPLICABLE TO PRODUCERS OF MEDICAL WASTE

The licensee must ensure that all medical waste is stored, treated and disposed in accordance with the following conditions:

1. If any other waste is mixed with medical waste that waste is to be treated as being medical waste.

2. All containers used for medical waste which are to be re-used must be thoroughly cleaned and disinfected before re-use.

3. The containers used for the storage and transportation of medical waste must be clearly labelled as containing medical waste.

4. All containers of medical waste must be stored in a secure location.

5. The storage area must be maintained in a condition which presents no threat to health, safety or the environment.

6. All necessary equipment required to clean and disinfect the area in case of accidental spillage must be provided at the site at all times, in addition to instructions detailing procedures to be followed in the event of a spill.

7. Medical waste must be disposed as soon as reasonably possible to prevent obnoxious odour or nuisance.

8. The Licensee is responsible for packaging, labelling and documenting of medical waste in preparation for transport by a transporter licensed by the Environment Protection Authority.

9. If medical waste is to be transported to another State or Territory for disposal then the waste must be packaged to conform with the Australian/New Zealand Standard AS/NZS 3816:1998 "Management of Clinical and Related Wastes".

10. If medical waste is to be transported entirely within South Australia for disposal then the waste must be packaged to conform with the Australian/New Zealand Standard AS/NZS 3816:1998 "Management of Clinical and Related Wastes" with the exception that the direct disposal of sharps into Mobile Garbage Bins (MGB's) is permitted.

11. Medical waste must not be subject to compaction by any compacting device or placed for storage or transport in a portable or mobile compactor.

12. All medical waste must be disposed by incineration.

80-36 GENERAL CONDITIONS OF LICENCE APPLYING TO PRODUCERS OF LISTED WASTES.

1. Any waste which is a substance within the meaning of the Dangerous Substances Act 1979 and any waste that is a poison within the meaning of the Drugs Act 1908 must be managed in the same manner as if they were a Controlled Waste for the purposes of this licence.

2. All material used in the course of the activity that becomes part of any listed waste must be stored, contained or treated in a manner that does not cause any of the following :

(a) environmental harm; or
(b) a risk to health and safety.

(3) All listed waste storage containers must be marked to identify the waste contained within them.

(4) All containers of listed waste leaving the licensees premises must display safety warnings in accordance with the Australian Code for the Transport of Dangerous Goods.

(5) All listed waste leaving the premises must be removed only by a Waste Transporter currently licensed by the EPA.

(6) The licensee must not spill listed waste onto soil.

(7) No listed waste is permitted to enter any sewerage system or stormwater drain.

(8) Before any listed waste leaves the premises the licensee must advise the transporter of the waste of the following matters:
(a) the nature of the waste;
(b) any hazards associated with the waste; and
(c) any precautions to be taken during the collection, transport or disposal of the waste.

(9) The licensee must render such assistance as is necessary to prevent the spillage of any listed waste during loading.

(10) The licensee must provide such equipment as is necessary to contain and recover any spill at the loading point.

(11) The licensee must not mix solid listed waste with liquid listed waste.

[Note : In general, wastes are incompatible if when mixed or otherwise brought into contact, they are likely to interact and increase the risk to human health and/or the environment. If a waste is classified as a dangerous good, the Australian Dangerous Goods Code relating to the mixing of incompatible goods must be observed. Notwithstanding the above, for the purpose of the Measure, mixing incompatible wastes also includes mixing of incompatible liquids and mixing solid waste with liquid waste.]

WHEN WASTE IS TO BE TRANSPORTED TO A DESTINATION WITHIN SOUTH AUSTRALIA.

(12) The information set out in Schedule X must be entered on a Waste Transport Certificate by the licensee and the information set out in Schedule Y must be entered by the waste transporter on the same Waste Transport Certificate before any controlled waste on List 1(a) is transported off the licensees premises.

(13) The information set out in Schedule A must be entered on a Waste Tracking Form by the licensee and the information set out in Schedule B must be entered by the waste transporter on the same Waste Tracking Form before any controlled waste on List 1(b) is transported off the licensees premises.

(14) In the event of a Waste Transport Certificate being required, the licensee must ;
(a) retain the green copy of the Waste Transport Certificate for no less than 12 months; and

(b) post or otherwise send the pink copy of the Waste Transport Certificate to the EPA within seven days of collection of the waste; and
(c) give the white, yellow and blue copies of the Waste Transport Certificate to the transporter of the waste at the time of collection.

(15) In the event of a Waste Tracking Form being required, the licensee must;
(a) retain the green copy of the Waste Tracking Form for no less than 12 months; and
(b) give the yellow and blue copies of the Waste Tracking Form to the transporter of the waste at the time of collection.

WHEN CONTROLLED WASTE IS TO BE TRANSPORTED TO A DESTINATION OTHER THAN WITHIN SOUTH AUSTRALIA.

(16) The information set out in Schedule X must be entered on a Waste Transport Certificate by the licensee and the information set out in Schedule Y must be entered by the waste transporter on the same Waste Transport Certificate before any controlled waste on Lists 1(a) or 1(b) is transported off the licensees premises.

(17) The licensee must;
(a) retain the green copy of the Waste Transport Certificate for no less than 12 months; and
(b) post or otherwise send the green "Tear-Off" slip to the environment Regulatory Authority or a delegated facility in the State or Territory to which the waste is to be taken; and
(c) post or otherwise send the pink copy of the Waste Transport Certificate to the EPA within seven days of collection of the waste; and
(d) give the white, yellow and blue copies of the Waste Transport Certificate to the transporter of the waste at the time of collection.

(18) No controlled waste destined for another State or Territory is permitted to be removed from the Licensees premises unless a Consignment Authorisation has been obtained by the Licensee from an agency in the jurisdiction of destination or from a facility delegated by that agency prior to the collection of such wastes.

(19) The licensee must confirm that the waste transporter is appropriately licensed in all States or Territories through which the controlled waste will be transported.

400-203 Listed Waste Producer only :
The Environment Protection Authority may impose or vary conditions during the term of this licence relating to handling and disposal of listed wastes.

400-215 The Licensee must ensure that every employee, agent or contractor responsible for carrying out any task controlled by this licence is properly advised as to the requirements of this licence and the general environmental duty under Section 25 of the Environment Protection Act 1993 that relate to that person's tasks and responsibilities as employee, agent or contractor.

400-212 PROCESS CHANGE - CONSENT for CERTAIN WORKS.

1. During the term of this licence, the Licensee shall not carry out works for the construction or alteration of a building or structure or the installation or alteration of plant or equipment for use for an activity the subject of this licence where such works or alterations are likely to result in :

(a) an alteration of the process by which the pollution or waste arising from the activity occurs; or

(b) an increased level of, or change in the nature of, the pollution or waste arising from the activity; or

(c) a relocation of the point of discharge of pollution or waste at the site the subject of this licence; without application for and subsequent approval from the Environment Protection Authority (the Authority).

2. Upon application for the construction, installation or alteration of works the Licensee must provide details to the satisfaction of the Authority, to enable an appropriate assessment of the environmental impact of the proposed works to be made.

400-210 Where a Licensee (or a relevant related entity for a member of a corporate group):

1. has an annual report available to the Australian Securities Commission, shareholders or otherwise publicly available, a copy of this report is to be provided to the Environment Protection Authority (the Authority) within one (1) month of it becoming publicly available;

2. has an environmental policy relating to reporting of incidents, handling public complaints or requirements for environment protection practices relating to pollution and waste, a copy of this policy to be provided to the Authority within one (1) month of being issued a Licence unless the Authority agrees that the policy is not required to be provided.

400-201 The Environment Protection Authority may during the term of this licence impose or vary conditions :

1. in relation to testing, monitoring and reporting referred to in Section 52(1)(a) of the Environment Protection Act 1993 (the 'Act');

2. which require the Licensee, in accordance with Section 53 of the Act, to prepare a plan of action to be taken in the event of an emergency;

3. which require the Licensee to develop an Environment Improvement Programme (EIP) as set out in Section 54 of the Act and to comply with the requirements of the EIP;

4. in relation to any activity the conduct of which has not required a licence relating to protection of the environment prior to the commencement of the Act;

5. which relate to provision of information relating to the Licensee or any agent or contractor operating on behalf of the Licensee;

6. which relate to provision of information relating to the activity subject to the licence including the levels of inputs and outputs and the amounts of pollutants or waste generated by the activity.

ENVIRONMENT PROTECTION AUTHORITY

South Australia

LICENCE

EPA Licence No: 2804

This licence is not valid unless signed below.

For Office use only
Date Issued:29-Mar-1999

Delegate
Environment Protection Authority
Date: 20/4/99

SOUTH AUSTRALIAN WASTE MANAGEMENT COMMISSION

South Australian Waste Management Commission Act, 1979

(Sections 26 (1) (a) and 27 (3) (a))

SOUTH AUSTRALIAN WASTE MANAGEMENT COMMISSION
REC'D 22 AUG 1986
REFERRED TO
CHQ $20-00

APPLICATION FOR LICENCE/RENEWAL OF LICENCE COVERING THE PRODUCTION OF WASTES OF A PRESCRIBED KIND*

TO: *The Director*
South Australian Waste Management Commission
GPO Box 2607
Adelaide 5001

I hereby apply for **(renewal of) a licence in respect of the production of wastes of a prescribed kind.

FULL NAME OF APPLICANT (block letters please)	HILLCREST HOSPITAL	
POSTAL ADDRESS OF APPLICANT	BOX 202 G.P.O ADELAIDE	Postcode 5001
PERSON TO BE CONTACTED FOR ENQUIRIES	Name: A.R. MITCHELL GENERAL SERVICES MANAGER Address: C/O HILLCREST HOSPITAL	Telephone Numbers Bus. 266 9223 A.H. 337 8807
THIS APPLICATION IS IN RESPECT OF	An Existing Operation [✓] (Please tick appropriate box) A Proposed Operation [ ]	PO322 26/9/87

* Seventh Schedule to the Waste Management Regulations, 1980
** Delete if not applicable.

SEVENTH SCHEDULE

Prescribed Waste

Acids and acid solutions—
- Alkylation acid
- Battery acid

Mineral acid—
- Fluorsilicic acid
- Hydrochloric acid
- Hydrofluoric acid
- Nitric acid
- Phosphoric acid
- Sulphuric acid
- Pickling acid
- Wool carbonizing residues

Organic acids—
- Acetic acid

Alkali and alkaline earth metals
Alkalies and alkaline solutions—
- Ammoniacal solutions
- Caustic soda or sodium hydroxide
- Lime slurries
- Soda ash or sodium carbonate
- Sodium phosphate or polyphosphate
- Sodium sulphide solutions

Antimony—Compounds and preparations
Arsenic—Compounds and preparations
Asbestos wastes
Bags—Contaminated with materials in this list
Bacterial wastes—
- Industrial sludges
- Pathogenic wastes

Biocides and contaminated containers
Bleaching powders and solutions
Boron and compounds
Borates
Cadmium compounds
Calcium carbide
Carbon disulphide
Cattle dips and residues
Carbonization liquors (wood or coal distillation)
Chlorine
Chlorinated organic materials—
- Carbon tetrachloride
- Chlorine trifluoride
- Ethylene dichloride, lights and heavies
- Chlorinated hydrocarbon insecticides
- Trichloroethylene
- Plasticisers

Chromium compounds
- Chromates
- Chromic acid

Copper compounds
Cyanides—
- Case hardening residues
- Plating residues

Dangerous substances under the provision of the Dangerous Substances Act Regulations, 1979-1980
Dimethoate
Dimethyl aniline
Disinfecants
Drugs—
- Drug containers (contaminated)
- Drug residues

Dyestuffs
Explosives (wastes), including "slurry" explosives, ammonium nitrate
Ethyl nitrite
Fenezaflor
Fluorine and compounds
Fumigants and contaminated containers
Fungicides and contaminated containers
Germicides and contaminated containers
Halogens
Herbicides and contaminated containers

Hydrocarbons—
- Lubricating oil
- Light oils
- Solvents

Insecticides and contaminated containers
Isocyanates
Lead compounds
Lime slurries
Manganese compounds
Mercury and compounds
Mineral spirits
Monosulfiram
Motor fuel additives and residues
Nickel compounds
Nitrates
Nitrocellulose residues
Nitromethane

Oils—
- Cutting
- Hydrocarbon
- Lubricating
- Natural

Organic phosphates
Oxidizing agents—
- Chlorates
- Chromates
- Nitrates
- Perchlorates
- Permanganates
- Peroxides

Pesticides and contaminated containers
Peroxides
Pharmaceutical wastes and residues
Phenol and phenolic compounds
Phosphorus and phosphorus residues
Phosphorus trichloride
Pickling acids and solutions
Poisons (any material which would require to be labelled under Schedules 1-7 of the Poisons Regulations under the Food & Drugs Act 1908-1976)
Propyl nitrate
Selenium compounds
Sheep dips and residues
Solvents—
- Hydrocarbon
- Flammable

Strychnine
Sulphide solutions
Surfactants—
- Biodegradable
- Non-biodegradable

Tetraethyl lead residues
Tetramethyl lead residues
Tetranitromethane
Timber preservatives
Thallium and compounds
Turpentine residues
Vaccines (viable or expired)
Vanadium compounds
Weedicides and contaminated containers
Zinc compounds

P.T.O.

Please provide the following details about waste produced of the kind specified in the Seventh Schedule to the Waste Management Regulations, 1980

PRESCRIBED WASTE (Please use a separate line for each prescribed waste.)	FORM OF WASTE (tick approp. column)			QUANTITY OF WASTE PRODUCED EACH YEAR		NAME AND ADDRESS OF PREMISES IN WHICH PRESCRIBED WASTE IS PRODUCED	INDICATE PROCESS RESULTING IN PRODUCTION OF WASTE	PLEASE PROVIDE FOLLOWING INFORMATION BY PLACING TICK IN APPROPRIATE COLUMN				
	Solid	Liquid	Sludge	tonnes	litres			On-site treatment	On-site disposal	Disposal by own trucks	Disposal by private contractors	Other
SHARPS	✓			APPROX 6 CUBIC YARDS		HILLCREST HOSPITAL FOSTERS ROAD GILLES PLAINS S.A.					✓	

$20-00

Licence Fee of ~~$12-50~~ enclosed

I hereby certify that to the best of my knowledge the information provided in this application is correct.

.....
Signature of Applicant

.....
Date

MANAGER, GENERAL SERVICES

Please Print Name and Address below.

HILLCREST HOSPITAL
BOX 202 G.P.O.
ADELAIDE
S.A. 5001

SOUTH AUSTRALIAN WASTE MANAGEMENT COMMISSION

South Australian Waste Management Commission Act, 1979

LICENCE COVERING THE PRODUCTION OF WASTES OF A PRESCRIBED KIND

HILLCREST HOSPITAL
G.P.O. Box 202
Adelaide 5001

The Person described hereunder has been licensed under the provisions of Part III of the South Australian Waste Management Commission Act 1979. This licence remains in force for a period of one year from the date of grant subject to the Licensee's compliance with the provisions of the Act, regulations and conditions of licence.

1. The General Conditions applicable to this licence are attached.

You are asked to read the Conditions of Licence carefully and are required to comply with them throughout the term of the licence.

LICENCE NUMBER: P0322

EXPIRY DATE: 26/09/87

LICENSEE: HILLCREST HOSPITAL

ADDRESS OF PREMISES AT WHICH PRESCRIBED WASTE IS PRODUCED: Fosters Road
Gilles Plains 5086

R. H. MADDOCKS
DIRECTOR

SOUTH AUSTRALIAN WASTE MANAGEMENT COMMISSION

G.P.O. BOX 2607 ADELAIDE 5001

APPLICATION/ANNUAL RETURN PRESCRIBED WASTE LICENCE

HILLCREST HOSPITAL
PO Box 233
Greenacres 5086

OFFICE USE ONLY
CHEQUE $ 2500
RECEIVED 17/9/91
CHECKED
SECT. 90 16.10.92 MW

I wish to advise that the annual fee for the licence referred to above is now due. Please complete both sides of the form, sign and return it to this office with the prescribed fee.

In the event of a variation in licence details, please amend the form before it is returned.

PLEASE COMPLETE BOTH SIDES OF THIS FORM

LICENCE NUMBER (OFFICE USE ONLY)		P0322	PAYMENT OF FEE DUE BY 30/09/91
LICENSEE		HILLCREST HOSPITAL	
PLACE(S) AT WHICH THE WASTE IS GENERATED. ASSESSMENT NUMBERS MAY BE FOUND ON E. & W. S. WATER & SEWERAGE ACCOUNT	PLACE 1	Fosters Road Gilles Plains ASSESSMENT NUMBER 1 06 07339 00 0	
	PLACE 2	ASSESSMENT NUMBER 2	
	PLACE 3	ASSESSMENT NUMBER 3	
	PLACE 4	ASSESSMENT NUMBER 4	
	PLACE 5	ASSESSMENT NUMBER 5	
PERSON TO BE CONTACTED FOR ENQUIRIES		NAME Mr. S. Karlsson	TEL. NO. 2669211
PRESCRIBED FEE	$	25	

HILLCREST HOSPITAL 12 SEP 1991 RECEIVED

CERTIFIED CORRECT
DEBIT 12/9/91
..... RESPONSIBLE OFFICER
HILLCREST HOSPITAL

S. Karlsson
SIGNATURE

S. Karlsson
NAME

DATE 12/9/91

M.D. Madigan
M.D. MADIGAN
DIRECTOR

SECOND SCHEDULE
PRESCRIBED WASTE

Acids and acidic solutions
Adhesives (excluding solid inert polymeric materials)
Alkali metals and alkaline earth metals
Alkalis and alkaline solutions
Antimony and antimony compounds and solutions
Arsenic and arsenic compounds and solutions
Asbestos
Barium compounds and solutions
Beryllium and beryllium compounds
Boron and boron compounds
Cadmium and cadmium compounds and solutions
Calcium carbide
Carbon disulphide
Carcinogens, teratogens and mutagens
Chlorates
Chromium compounds and solutions
Copper compounds and solutions
Cyanides or cyanide solutions and cyanide complexes
Cytotoxic wastes
Dangerous substances within the meaning of the Dangerous Substances Act, 1979
Distillation residues
Fluoride compounds
Halogens
Heterocyclic organic compounds containing oxygen, nitrogen or sulphur
Hydrocarbons and their oxygen, nitrogen and sulphur compounds (excluding oils)
Isocyanate compounds (excluding solid inert polymeric materials)
Laboratory chemicals
Lead compounds and solutions
Lime sludges or slurries
Manganese compounds
Medical Wastes
Mercaptans
Mercury, mercury compounds and equipment containing mercury
Metal finishing effluent and residues
Nickel compounds and solutions
Nitrates
Oil Refinery wastes
Organic halogen compounds (excluding solid inert polymeric materials)
Organic phosphates
Organic solvents
Organometallic residues
Oxidizing agents
Paint sludges and residues
Perchlorates
Peroxides
Pesticides (including herbicides & fungicides)
Pharmaceutical wastes and residues
Phenolic compounds (excluding solid inert polymeric materials)
Phosphorus and its compounds
Polychlorinated biphenyls
Poisons within the meaning of the Drugs Act, 1908
Reactive chemicals
Reducing agents
Selenium and selenium compounds and solutions
Silver compounds and solutions
Solvent recovery residues
Sulphides and sulphide solutions
Surfactants
Thallium and thallium compounds and solutions
Timber preservative residues
Vanadium compounds
Zinc compounds and solutions

TYPE OF INDUSTRIAL OR COMMERCIAL PROCESS OR TEACHING OR RESEARCH ACTIVITY ..... Hospital .....

PRESCRIBED WASTE PRODUCED	FORM OF WASTE		
	SOLID	LIQUID	SLUDGE
Medical Waste	✓		

SOUTH AUSTRALIAN WASTE MANAGEMENT COMMISSION

Waste Management Act, 1987

PRESCRIBED WASTE LICENCE

The person named hereunder is licensed under Division IV of the Waste Management Act to carry on an industrial or commercial process or teaching or research activity in the course of which prescribed waste in produced

LICENSEE: HILLCREST HOSPITAL

LICENCE NUMBER: P0322

M. D. MADIGAN
DIRECTOR

HILLCREST HOSPITAL
PO Box 233
Greenacres 5086

P&PWAST3,PSMEDIC

PGPWASTE

SOUTH AUSTRALIAN WASTE MANAGEMENT COMMISSION

GENERAL CONDITIONS OF LICENCE APPLYING TO PRODUCERS OF PRESCRIBED WASTES

1. The licensee shall not cause or permit the prescribed waste to be stored, contained, treated or disposed of in a manner that causes or threatens to cause:

   (i) a nuisance or offensive condition;
   (ii) conditions injurious to health or safety;
   (iii) damage to the environment.

2. The licensee shall ensure that:

   (i) each container of prescribed waste stored upon his or her premises shall be marked to identify the waste contained therein.

   (ii) each container of prescribed waste removed from his or her premises shall display safety warnings required by State or Commonwealth legislation or in accordance with the Australian Code for the Transport of Dangerous Goods.

3. The licensee shall ensure that only a transporter possessing a current licence granted by the South Australian Waste Management Commission for the transport of prescribed waste within the State shall be used for the removal of the waste from the licensee's premises.

4. Before the loading of the prescribed waste for removal, the licensee shall advise the transporter of the nature of the waste, hazards associated with the waste and any precautions which need to be taken during the collection, transportation or disposal of the said prescribed waste.

5. The licensee shall co-operate with the transporter to ensure that loading operations are carried out in such a way so as to prevent spillage of the prescribed waste.

6. The licensee shall ensure that a facility is available for the containment and recovery of any spillage at the loading point.

7. The licensee shall not cause or permit the mixing of the liquid prescribed waste with solid prescribed waste or any other material unless approved in writing by the Commission.

8. The licensee shall not cause or permit the mixing of incompatible prescribed waste.

9. The licensee shall give prior notification to the Commission of any substantial variations to the information submitted in the Annual Return completed in accordance with Section 25 of the Waste Management Act.

10. The licensee shall maintain, in respect of prescribed waste production, such records and in such manner as the Commission may require or approve.

11. Those records specified in Condition 10 shall be accessible to and on demand by Authorised Officers appointed under the Waste Management Act.

12. The licensee shall ensure that a properly completed Waste Disposal Notice is dispatched with every load of prescribed waste removed from the licensee's premises.

22nd September, 1988

PSINFECT

SPECIAL CONDITIONS OF LICENCE APPLICABLE TO PRODUCERS OF INFECTIOUS WASTE

The licensee shall ensure that all infectious waste which is defined as –

'Waste arising from medical, nursing, dental, veterinary, pathology, pharmaceutical or similar practice, investigation, treatment, care, teaching or research which by nature of its infectious content may prove a hazard or give offence unless previously rendered safe and inoffensive.

Notwithstanding the above, the following shall also be defined as infectious waste:

- *discarded needles, needle/syringe combinations and any other sharp surgical instruments;*
- *discarded blood specimens and blood products;*
- *human tissue, organs, body parts, human foetuses and animal carcasses;*
- *any other material which in the determination of the Institution Infection Control Officer or Committee presents a significant risk of infection'*

is stored, treated and disposed in accordance with the following conditions:

1. If any other waste is mixed with infectious waste that waste is to be treated as being infectious waste.
2. All containers used for infectious waste shall be weatherproof, insect and vermin proof.
3. All containers used for infectious waste which are reused shall be thoroughly cleansed and disinfected before use.
4. The containers used for the storage and transportation of infectious waste shall be clearly labelled as containing infectious waste.
5. All containers of infectious waste shall be stored in a secure location.
6. The storage area shall be maintained in a condition which presents no threat to health, safety or the environment.

7. All necessary equipment required to clean and disinfect the area in case of accidental spillage shall be easily available and accessible.

8. Infectious waste shall be disposed of a soon as reasonably possible.

9. Infectious waste, excluding discarded needles, needle-syringe combinations and any other sharp surgical instruments, shall be contained for storage and disposal in clearly labelled bags which are impervious to moisture and have a strength sufficient to preclude ripping, tearing or bursting under normal conditions of handling. The bags are to be securely tied so as to prevent leakage or expulsion of solid or liquid wastes during storage, handling or transport and will not be subject to compaction by any compacting device and will not be placed for storage or transport in a portable or mobile compactor.

10. Discarded needles, needle/syringe combinations and any other sharp surgical instruments shall be contained for disposal in rigid puncture proof containers which are taped closed or tightly lidded. Containers shall not be subject to compaction by any compacting device and shall not be placed for storage or transport in a portable or mobile compactor.

11. All infectious waste shall be disposed of by incineration unless approval is gained in writing from the Commission for an alternative means of disposal.

23rd February 1989

PSMEDIC

SPECIAL CONDITIONS OF LICENCE APPLICABLE TO PRODUCERS OF MEDICAL WASTE

The licensee shall ensure that all medical waste which is defined as waste consisting of:

(a) a needle, syringe with needle, surgical instrument or other article that is discarded in the course of medical, dental or veterinary practice or research and has a sharp edge or point capable of inflicting a penetrating injury on a person who comes into contact with it;

(b) human tissue, bone, organ, body part or foetus;

(c) a vessel, bag or tube containing a liquid body substance;

(d) an animal carcass discarded in the course of veterinary research or medical practice or research;

(e) a specimen or culture discarded in the course of medical, dental or veterinary practice or research and any material that has come into contact with such a specimen or culture;

or

(f) any other article or matter that is discarded in the course of medical, dental or veterinary practice or research and that poses a significant risk to the health of a person who comes into contact with it.

is stored, treated and disposed in accordance with the following conditions:

1. If any other waste is mixed with medical waste that waste is to be treated as being medical waste.

2. All containers used for medical waste shall be weatherproof, insect and vermin proof.

3. All containers used for medical waste which are reused shall be thoroughly cleansed and disinfected before use.

4. The containers used for the storage and transportation of medical waste shall be clearly labelled as containing medical waste.

5. All containers of medical waste shall be stored in a secure location.

6. The storage area shall be maintained in a condition which presents no threat to health, safety or the environment.

7. All necessary equipment required to clean and disinfect the area in case of accidental spillage shall be easily available and accessible.

8. Medical waste shall be disposed of as soon as reasonably possible.

9. Medical waste, excluding discarded needles, needle-syringe combinations and any other sharp surgical instruments, shall be contained for storage and disposal in clearly labelled bags which are impervious to moisture and have a strength sufficient to preclude ripping, tearing or bursting under normal conditions of handling. The bags are to be securely tied so as to prevent leakage or expulsion of solid or liquid wastes during storage, handling or transport and will not be subject to compaction by any compacting device and will not be placed for storage or transport in a portable or mobile compactor.

10. Discarded needles, needle/syringe combinations and any other sharp surgical instruments shall be contained for disposal in rigid puncture proof containers which are taped closed, tightly lidded or locked. The lid should not open if the container falls on its side or is dropped. Containers shall not be subject to compaction by any compacting device and shall not be placed for storage or transport in a portable or mobile compactor.

11. All medical waste shall be disposed of by incineration.

13th December, 1990

SOUTH AUSTRALIAN WASTE MANAGEMENT COMMISSION

GENERAL CONDITIONS OF LICENCE APPLYING TO PRODUCERS OF PRESCRIBED WASTES

1. The licensee shall not cause or permit the prescribed waste to be stored, contained, treated or disposed of in a manner that causes or threatens to cause:

   (i) a nuisance or offensive condition;
   (ii) conditions injurious to health or safety;
   (iii) damage to the environment.

2. The licensee shall ensure that:

   (i) each container of prescribed waste stored upon his or her premises shall be marked to identify the waste contained therein.

   (ii) each container of prescribed waste removed from his or her premises shall display safety warnings required by State or Commonwealth legislation or in accordance with the Australian Code for the Transport of Dangerous Goods.

3. The licensee shall ensure that only a transporter possessing a current licence granted by the South Australian Waste Management Commission for the transport of prescribed waste within the State shall be used for the removal of the waste from the licensee's premises.

4. The licensee shall take reasonable steps to ensure that prescribed waste does not come into direct contact with soil.

5. The licensee shall ensure that no prescribed waste enters or continues to enter any sewerage system or stormwater drain.

6. Before the loading of the prescribed waste for removal, the licensee shall advise the transporter of the nature of the waste, hazards associated with the waste and any precautions which need to be taken during the collection, transportation or disposal of the said prescribed waste.

7. The licensee shall co-operate with the transporter to ensure that loading operations are carried out in such a way so as to prevent spillage of the prescribed waste.

8. The licensee shall ensure that a facility or equipment is available for the containment and recovery of any spillage at the loading point.

9. The licensee shall not cause or permit the mixing of the liquid prescribed waste with solid prescribed waste or any other material unless approved in writing by the Commission.

10. The licensee shall not cause or permit the mixing of incompatible prescribed waste.

11. The licensee shall give prior notification to the Commission of any substantial variations to the information submitted in the Annual Return completed in accordance with Section 25 of the Waste Management Act.

12. The licensee shall maintain, in respect of prescribed waste production, such records and in such manner as the Commission may require or approve.

13. Those records specified in Condition 10 shall be accessible to and on demand by Authorised Officers appointed under the Waste Management Act.

14. The licensee shall ensure that a Waste Disposal Notice is properly completed before prescribed waste is transported off-site for treatment (including recycling), storage or disposal.

    A Waste Disposal Notice shall be completed in accordance with requirements set out in Attachment A to these Conditions of licence.

15. The licensee shall ensure that all relevant operating personnel are aware of these conditions.

23 May, 1991

PGPWAST2
ATTACHMENT A

WASTE DISPOSAL NOTICE

Condition 12 states:

> "The licensee shall ensure that a Waste Disposal Notice is properly completed before prescribed waste is transported off-site for treatment (including recycling), storage or disposal ....."

A Waste Disposal Notice is properly completed by undertaking the following steps:

1. The licensee must designate on the Waste Disposal Notice one licensed waste depot which is permitted to receive the waste.

2. The Waste Disposal Notice must contain all of the following information:

   2.1 the producer's name,
   2.2 postal address,
   2.3 person to contact in the event of enquiries,
   2.4 the producer's licence number,
   2.5 the place at which waste produced,
   2.6 a description of the waste,
   2.7 pH of the waste (if appropriate),
   2.8 the amount of waste in tonnes, kilolitres or cubic metres,
   2.9 any hazards associated with the waste,
   2.10 the intended disposal route.

3. The waste shall be coded as follows:

   LIST A – UN Number as specified in Australian Code for the Transport of Dangerous Goods by Road and Rail.

   LIST B – Class Number as specified in Australian Code for the Transport of Dangerous Goods by Road and Rail.

   LIST C – Physical and chemical identification of waste as specified in Commission Technical Bulletin No. 4.

   LIST D – The type of activity in which the producer is engaged as specified in Commission Technical Bulletin No. 4.

   LIST E – Waste contaminants as specified in Commission Technical Bulletin No. 4.

4. The licensee shall ensure that:

   4.1 The Waste Disposal Notice is signed by hand and the date of the collection of the waste is entered in Part A.

4.2. The handwritten signature and date of collection of the waste is entered in Part B by the waste transporter.

4.3 The green copy of the Waste Disposal Notice is retained by the licensee for no less than 12 months.

4.4 Part D of the Waste Disposal Notice is posted or otherwise sent to the South Australian Waste Management Commission within seven days of collection of the waste.

4.5 The white, yellow and blue copies of the Waste Disposal Notice are given to the transporter who collects the waste at the time of collection.

Environment Protection Authroity Site Contamination Index Records - 11 April 2019

Notification no	Type	Address	Potentially contaminating activity
13059	109 Notification	329 Hampstead Road NORTHFIELD SA 5085	Service stations
61118	Audit Notification	Lot 101 Hampstead Road NORTHFIELD SA 5085	Fill or soil importation
60506	Audit Notification	Lot 152 Hampstead Road NORTHFIELD SA 5085	Fill or soil importation
61334	Audit Notification	Lot 3002 Hampstead Road NORTHFIELD SA 5085	Electrical transformer or capacitor works; Listed Substances (storage)
61371	Audit Notification	Lot 3002 Hampstead Road NORTHFIELD SA 5085	Electrical transformer or capacitor works; Listed Substances (storage)
62002	Audit Notification	709-711 Grand Junction Road NORTHFIELD SA 5085	Not recorded
60801	Audit Notification	(Part Section 877) 181-201 Hampstead Road NORTHFIELD SA 5085	Not recorded
61118 - 001	Audit Report	Lot 101 Hampstead Road NORTHFIELD SA 5085	Fill or soil importation
61118 - 002	Audit Report	Lot 101 Hampstead Road NORTHFIELD SA 5085	Fill or soil importation
60506 - 001	Audit Report	Lot 152 Hampstead Road NORTHFIELD SA 5085	Agricultural activities; Fill or soil importation
61371 - 001	Audit Report	Lot 3002 Hampstead Road NORTHFIELD SA 5085	Agricultural activities; Electrical transformer or capacitor works; Fill or soil
60801 - 001 A	Audit Report	(Part Section 877) 181-201 Hampstead Road NORTHFIELD SA 5085	Listed Substances (storage)
60506	Audit Termination	Lot 152 Hampstead Road NORTHFIELD SA 5085	Not recorded
61334	Audit Termination	Lot 3002 Hampstead Road NORTHFIELD SA 5085	Not recorded
10062	Pre 1 July 2009 Audit Notification	South Avenue NORTHFIELD SA 5085	Not recorded
11991	Pre 1 July 2009 Audit Notification	Folland Avenue NORTHFIELD SA 5085	Listed Substances (storage)
12506	Pre 1 July 2009 Audit Notification	Part Folland Ave Dairy Folland Avenue NORTHFIELD SA 5085	Not recorded
12505	Pre 1 July 2009 Audit Notification	Area 9B Morris Hospital Folland Avenue NORTHFIELD SA 5085	Not recorded
15096	Pre 1 July 2009 Audit Notification	Area 7: Residences C, D and E Folland Avenue NORTHFIELD SA 5085	Not recorded
10048	Pre 1 July 2009 Audit Notification	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Agricultural activities
11339	Pre 1 July 2009 Audit Notification	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded
11676	Pre 1 July 2009 Audit Notification	Vicinity of Grand Junction Road, Folland Avenue and Fosters Road NORTHFIELD SA 5085	Listed Substances (manufacture, production, recycling)
10062 - 001	Pre 1 July 2009 Audit Report	South Avenue NORTHFIELD SA 5085	Not recorded
11991 - 001	Pre 1 July 2009 Audit Report	Folland Avenue NORTHFIELD SA 5085	Listed Substances (storage)
12506 - 001	Pre 1 July 2009 Audit Report	Part Folland Ave Dairy Folland Avenue NORTHFIELD SA 5085	Not recorded
12505 - 001	Pre 1 July 2009 Audit Report	Area 9B Morris Hospital Folland Avenue NORTHFIELD SA 5085	Not recorded
10048 - 001	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Agricultural activities
10048 - 002	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded
10048 - 003	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded
10048 - 004	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded
11339 - 001	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded
11339 - 002	Pre 1 July 2009 Audit Report	Northfield Precincts 1 & 2, + Morris Hospital NORTHFIELD SA 5085	Not recorded
11676 - 001	Pre 1 July 2009 Audit Report	Vicinity of Grand Junction Road, Folland Avenue and Fosters Road NORTHFIELD SA 5085	Listed Substances (manufacture, production, recycling)
15096	Pre 1 July 2009 Audit Termination	Area 7: Residences C, D and E Folland Avenue NORTHFIELD SA 5085	Not recorded
10165	Pre 1 July 2009 Audit Notification	Trinity Way & Buckingham Street OAKDEN SA 5086	Not recorded
10165 - 001	Pre 1 July 2009 Audit Report	Trinity Way & Buckingham Street OAKDEN SA 5086	Pest control works
16178	SAHC	Former Hillcrest Hospital Fosters Road OAKDEN SA 5086	Fill or soil importation; Incineration

Appendix J

Dangerous Substances Licence Search

Government of South Australia
SafeWork SA

Licensing, Customer Services Team

Level 4 World Park A
33 Richmond Road
Keswick SA 5035

GPO Box 465
Adelaide SA 5001

DX 715 Adelaide

Phone 1300 365 255
Email licensing.safework@sa.gov.au

ABN 50-560-588-327

www.safework.sa.gov.au

2 April 2019

Dr Jennifer de Livera
RenewalSA
Riverside Centre
North Terrace
ADELAIDE SA 5000

Dear Dr de Livera

DANGEROUS SUBSTANCES LICENCE SEARCH

PROPERTY DETAILS: 200 Fosters Road, Oakden

Further to your application for a Dangerous Substance Search dated 21 March 2019 received for the abovementioned site, I advise that there are no current or historical records for this site.

Yours sincerely

MANAGER
CUSTOMER SERVICES TEAM
SAFEWORK SA

Appendix K

Historical Reports

#337
epa 777/94
27 10 97

Department of Environment and Natural Resources

Report of Potential Environmental Issues and Preliminary Testing at Hillcrest Hospital, Fosters Road, Gilles Plains, SA

RUST PPK Pty Ltd
Environment & Infrastructure

100 North Terrace
Adelaide SA 5000 Australia
Telephone: (08) 212 5733
Facsimile: (08) 212 4686

EPA
Save as: 16178 19941202

94/730
27F358A
2 December, 1994

RUST PPK Pty Ltd
ACN 058 381 507

100 North Terrace
Adelaide, South Australia
GPO Box 398, Adelaide
SA 5001 Australia
Telephone (08) 212 5733
Int Tel +61 8 212 5733
Facsimile (08) 212 4686

A NATA Certified Quality Company

RUST PPK
Environment & Infrastructure

Our Ref: 2710/2904/27F358A

2 December, 1994

Manager - Property Services
Department of Environment & Natural Resources
Resource Conservation and Management Group
Treasury Building
144 King William Street
ADELAIDE SA 5000

Attention: Mr. Peter Lawrence

Dear Sir,

Re: Report of Potential Environmental Issues and Preliminary Testing at Hillcrest Hospital, Fosters Road, Gilles Plains, SA

We are pleased to provide our report on the titled subject. The report includes both the earlier draft site history report and subsequent preliminary test work.

We would welcome any comments you may have. Please do not hesitate to contact the undersigned if you wish to discuss any aspect of the report or if you require further assistance.

Yours faithfully,

LES GRAY,
Senior Consultant

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APPENDIX E	Former Certificates of Title
APPENDIX F	Previous Borehole Logs from the Department of Mines and Energy
APPENDIX G	Site Plans Showing Potentially Contaminated Areas and Other Potential Liabilities
APPENDIX H	Site Plans Showing Sampling Locations
APPENDIX I	Field Work and Sample Details
APPENDIX J	Borehole Logs and Explanatory Notes
APPENDIX K	Laboratory Methodology and Quality Assurance; Laboratory Analytical Reports
APPENDIX L	Site Plan Showing Location of Trial Excavation Area
APPENDIX M	Photographic Record of Backhoe Excavation

Abbreviations of Terms Used

IT	Industrial Therapy
IDSC	Intellectual Disability Services Council
PAH	Polycyclic Aromatic Hydrocarbon
TPH	Total Petroleum Hydrocarbon
PCB	Polychlorinated Biphenyls

Executive Overview

Background to this Report

RUST PPK Pty Ltd was commissioned by the Resource Conservation and Management Group of the Department of Environment and Natural Resources to investigate and report on the potential site contamination, environmental and other related issues arising from historical and current site activities on a 46.1 hectare section of the Hillcrest Hospital property, Fosters Road, Gilles Plains and a 2.3 hectare adjoining area used by the IDSC (Intellectual Disability Services Council) Strathmont Centre. The work was carried out in two steps. Initially a review was carried out of historical, site inspection and anecdotal information. This was followed by a limited sampling and testing program and trial backhoe excavation to test information regarding the presence of buried building rubble. The purpose of the report is to fulfil the disclosure objectives of the current owner, the South Australian State Government, pending sale negotiations for the site.

Limited Sampling and Testing Program

A limited sampling and testing program was designed on the basis of information obtained from site history research, detailed in subsequent sections.

Eighteen samples were taken from a total of thirteen locations across the site and none revealed evidence of unacceptable concentrations of the contaminants for which analytical tests were conducted.

A total of eleven of the locations were tested for contaminants usually associated with coke ash disposal. Six of these were on an approximate 20 metre triangular grid east of Litchfield House in an area of suspected coke ash disposal. Other sample locations were in lawned areas as follows:

- *in a suspected former market garden area south of the Industrial Therapy Building,*
- *in a suspected ash disposal area south of the Boiler House and in a further suspected ash disposal area on the "Square Acre".*

A further sample was taken from the suspected former orchard area in the south-east corner of the site. The absence of significant concentrations of these contaminants suggests that there were negligible quantities of coke ash in the samples. It will be appreciated that single samples cannot be taken as representative of an entire area and it remains a possibility that high concentrations of coke ash are present elsewhere either inside or outside the broad areas suggested from anecdotal information.

A total of four samples were tested for organochlorine pesticides and metals possibly associated with relevant cropping and orchard activities and again concentrations were within acceptable limits. Tests were conducted on samples from a former market garden area east of Litchfield House, from a former market garden area south of the Industrial Therapy building, from a former orchard area in the south-east corner of the site and from the Hospital Paddock at the northern end of the site. These preliminary results for the former cropping and orchard areas are encouraging however are insufficient to discount the possible presence of such contaminants from untested locations on the site where there is evidence of cropping and/or orchard activities.

Six boreholes drilled in an approximate 20 metre triangular grid pattern east of Litchfield House failed to find any evidence of the burial of building rubble. It will be appreciated that the anecdotal information indicated a large area in which such burial may have occurred and only a small part of this area was tested.

Trial Backhoe Excavation of Buried Building Rubble

Excavations were dug to a depth of approximately 1.5 metres in a location immediately south of the fenceline which separates the Hospital Paddock from the remainder of the site.

Buried building rubble was unearthed confirming anecdotal evidence. The rubble had a soil coverage of approximately 0.3 metres and extended to a depth greater than 1.7 metres. The backhoe was unable in the time available to dislodge one large piece of concrete. In this small area there was no evidence of chemical contaminants.

However there are reports of up to 50 burial trenches in this area of the site alone, some of which may contain different materials. The presence of this rubble could impact on housing development costs in localised areas of the site.

Current Status on the Site

It is proposed that the site be used for residential development in an expansion of the substantial area of single storey residential development which has occurred in the past 1 to 2 years to the immediate south and south-east of the site.

Parts of the Hillcrest Hospital property will not be sold including some of the more recently constructed buildings such as James Nash House (1989) Mason House (1980) and the Psychogeriatric Ward (1975). Many of the functions and activities formerly carried out at Hillcrest will be transferred to other sites. Relocation of the patients and staff was well underway at the time of publication of this report.

Some former accommodation wards have been demolished in the recent past while some others are vacant at present. Two buildings on the site have been granted heritage listing, namely the mortuary building and the administration block.

The northern portion of the Hillcrest property, referred to as the "Hospital Paddock" is used by the Department of Primary Industries for the cultivation of cereal crops.

The IDSC property included in the subject site is currently used by IDSC as a carpark.

History Overview

Prior to 1926 the subject site was used primarily for growing cereal crops and perhaps some grazing. The land was acquired by the State Government in 1917 and dedicated for "Northfield Mental Hospital", later to become Hillcrest Hospital. Construction of buildings was undertaken progressively from 1926. By 1959 ten accommodation wards, the administration building and assorted services buildings were present on the site.

Subsequent construction included a central boiler house (1961), the Industrial Therapy Workshop (1968), the Linen Sorting Building (1968), additional accommodation wards and sheds in the garage/garden complex. The current IDSC property was bituminised between 1970 and 1975.

Several areas of the subject site have been used for market garden and orchard activities. Approximate dates and locations have been obtained for these activities.

Summary of Potentially Contaminated Areas

The sources of potential contamination and related potential liabilities encountered during the investigation of this site fell into the following categories:

- *Areas possibly contaminated with coke ash.*
- *Areas where suspected burial of building rubble has occurred.*
- *An external underground pipe network insulated with materials which may contain asbestos.*
- *Areas of potential contamination from miscellaneous sources.*
- *Sites formerly occupied by market gardens or orchards.*
- *Sites of landscaping with unknown sources of fill.*
- *Related geotechnical issues.*

Each of the above types of contamination or related potential liability, is perceived as posing a potential risk to future redevelopment of the site - either through the impact on the health of future occupants or through the possible effects on future building development.

Areas Possibly Contaminated with Coke Ash

Prior to 1961, hospital wards and other major buildings contained individual boilers for the purpose of heating. Subsequently in 1961 Central Boiler Plant was installed which supplied heating steam to all buildings.

Until 1975, a solid fuel, coke was used to fire the boilers. The incomplete product of combustion, coke ash was disposed of in different parts of the site for the purpose of landscaping, as a source of landfill or for creating pathways.

Areas where coke ash has been buried cannot be identified visually, since the areas were covered with top soil and grassed, leaving no visible evidence.

Coke ash contains Polycyclic Aromatic Hydrocarbons (PAHs) some of which are suspected to be carcinogenic.

Since the coke ash may have only minimal soil cover health risks may arise for future site occupants as a result of earthworks building and other site activities.

Areas Where Burial of Building Rubble Has Occurred

It was common practice over many years to dispose of building rubble by burial on the site. This rubble includes demolition materials from former site buildings and is also understood to include off-site sources of demolition materials originating from former Hampstead Hospital buildings and other

sources. The demolition materials are understood to include large masonry blocks. The presence of these materials and the presence of incompletely removed building foundations are likely to impact on the earthworks requirements for development of the site.

Some of the burial areas could contain chemical contamination which could arise from buried metallic components, buried bitumen rubble (possibly containing polycyclic aromatic hydrocarbons) and buried asbestos containing materials. The existence or otherwise of potential health risks would depend upon concentrations of contaminants and the presence or otherwise of exposure paths.

External Underground Pipework Insulated With Material Which May Contain Asbestos

When the Central Boiler House was installed in 1961, an underground network of steam and return condensate pipes which linked the major buildings to the Boiler House was also established. These pipes are insulated with materials which is likely to contain asbestos.

These pipes are most likely not laid in trenches, but are buried under soil and gravel. The small sections of pipes and insulation were observed in several access service pits. It appears likely that the full network of steam and condensate pipes, which are now redundant, is still present underground.

Earthworks and building activities on the site could result in disturbance or exposure of the possible asbestos with subsequent potential health risks arising from potential inhalation of asbestos fibres.

Underground Fuel Storage Tanks

An estimated four in total underground fuel storage tanks are present on the site. These include the following:

- *an estimated three tanks located west of the mortuary*
- *one tank located in the garage/garden complex.*

Soil contamination could have occurred in the event of surface spillage or from any leakage from the tanks or associated pipelines.

Sites Formerly Occupied by Market Gardens or Orchards

The hospital grounds were used extensively for market gardening and orchards in the past. Aerial photography and anecdotal information enabled an approximate determination of the areas of the site and the periods of these activities.

Possible chemical contaminants associated with these activities include organochlorine contained in some pesticides used prior to the 1960s and metallic chemical compounds used on orchards in the past.

The Hospital Paddock at the northern end of the property has been used for cropping purposes since at least 1949. Prior to the 1960s organochlorine pesticides may have been used. Information is available on the range of chemical substances used since the early 1960s.

Areas of Landscaping with Unknown Sources of Fill

The category of areas were noted during the site inspection as being "raised" areas, however there is no information regarding the landscaping medium or the landfill.

Areas of Potential Contamination from Miscellaneous Sources

This category covers numerous types of contamination, such as:

- *Spot treatment for white ants, black ants and bull ants (pesticides used in the past contained organochlorines which are toxic and break down very slowly).*
- *The site of a former substation which may have contained Polychlorinated Biphenyls (PCBs) in its transformer oil. The transformer oil could have leaked into the soil. PCBs are harmful to human health.*
- *Bituminised areas including former roadways, paths and a carpark have been covered over, but may be uncovered in future earthworks building activities and subsequent site activities. This bitumen may contain PAHs and potential health risks may arise.*

Other Sources of Possible Contamination

- *Additives may have been added to boiler feed water to prevent scaling and limit maintenance problems arising from poor water quality. Some such additives if used in the past may have been toxic, hence leakage through condensate return pipes into the soil structure may have caused slight contamination.*
- *Most bitumen roads on the site are older than 15 years and possibly may contain PAHs.*

Uncompacted Soil

The geotechnical implications of the presence of uncompacted soil on parts of the site will require consideration in the design of building development for the site. This uncompacted soil arises primarily from the on-site burial of building rubble and the partial demolition of the foundations of former buildings.

Shallow Groundwater

A groundwater pumping station on the site is operated for the purpose of preventing the ingress of groundwater to the basement of the psychogeriatric ward. As utilisation of this ward is to contain, it will also be necessary to continue future operation of the pumping station.

Due to recent essential site administrative changes in preparation for sale of the subject site responsibility for operation of the pumping station was transferred recently to Glenside/Hillcrest Building Services Department located at Glenside.

Telecom Radio Tower

Extensive enquiries were made to determine the possible need to specify a separation distance between residential housing and the Telecom radio tower installation on the site. This installation was constructed approximately 2 years ago for the purpose of receiving and transmitting mobile radio signals. The installation comprises a brick building with towers on top and a small wire mesh fenced enclosure.

In the end, the enquiries indicated that the separation distance is likely to be governed almost as much by visual, planning and access considerations as by any environmental requirement for a buffer distance separation. However, for reasons discussed below, it is recommended that prudence be applied, and that a separation distance be specified. At present we are unable to make a firm recommendation on distance, however we would suggest that 5-10 metres may be sufficient, subject to further investigation, and subject also to knowledge of the height of the adjacent residential buildings.

Heritage Listed Buildings

Two buildings on the site have been granted heritage listing, namely the mortuary building and the administration block. It is understood that Enfield Council is currently undertaking assessment of the heritage value of some other buildings on the site.

Recommendations

The following recommendations are made:

- *Develop a program for further investigation, assessment and determination of possible remediation requirements, for the areas of the site which are subject to potential chemical contamination.*

- *Determine the probable extent of impact of buried rubble in the site on future building activities. This would include developing a program of test boreholes to delineate areas of the site which are subject to burial of building rubble. The depth of soil cover should also be determined.*

- *Determine the feasibility of relocating the groundwater pumping station currently on the subject site to a new location on the Hospital grounds near the psychogeriatric ward. This should be part of a strategy to ensure that future liabilities do not arise in the event of any dilapidation of buildings on the subject site as a result of changes in moisture content of the reactive clay soils.*

- *Include underground pipework insulation in plans to remove asbestos containing materials from the site prior to demolition and building activities.*

1. Introduction

1.1 Overview

RUST PPK Pty Ltd was commissioned by the Resource Conservation and Management Group of the Department of Environment and Natural Resources to investigate and report on the potential site contamination, environmental and other related issues arising from historical and current site activities on a major section of the Hillcrest Hospital property, Fosters Road, Gilles Plains and a small adjoining area used by the IDSC (Intellectual Disability Services Council) Strathmont Centre. The work was carried out in two steps. Initially a review was carried out of historical, site inspection and anecdotal information and a draft report was produced. Subsequently RUST PPK was commissioned to carry out a limited program of sampling and testing. The scope of work for this program is included in Section 1.2 of this report. The results of this program are presented in this report together with site history information which includes all the contents of the earlier draft report. The purpose of the report is to fulfil the disclosure objectives of the current owner, the South Australian State Government, pending sale negotiations for the site.

The original perceived issues included the presence of an underground fuel tank and bitumen roadways.

Subsequent investigations revealed a number of additional sources of potential soil contamination including the following:

- The operation on the site of a boiler which, prior to conversion to gas firing, used solid fuel, apparently coke, and produced a solid waste residue.
- The widespread disposal of boiler waste residue around the Hillcrest Hospital site. Disposal areas were subsequently covered with topsoil and grassed leaving no evidence of disposal areas.
- The burial at unmarked locations on the site of possibly bitumen or asbestos contaminated rubble.

Client approval was also obtained for the assessment of a number of additional issues not strictly related to soil contamination, but which are relevant to the client's broad objective of disclosure of any potential site liabilities. The issues included the following:

- The on-site burial of rubble, whether clean or contaminated, at unmarked locations. Some of this rubble includes very large concrete and masonry blocks which could pose significant obstacles for earthmoving equipment during subsequent site development.
- Uncompacted fill material has been placed to depths of several metres over a significant area on part of the site.
- The purpose, operation and management of a groundwater pump on the site.
- The presence on the site of underground asbestos lagged pipes.

- The presence on the site of a Telecom radio transmission tower. There is a need to ensure compliance with radio frequency radiation exposure levels and other planning requirements for residential housing in the vicinity of such installation.

- The presence of additional underground fuel tanks; two containing leaded petrol and the other containing unleaded petrol.

Following completion of the review of all the above issues, a draft report was produced including all relevant site history information.

1.2 Sampling and Testing Program

The draft report was reviewed with Mr Peter Lawrence and a preliminary sampling and testing program was designed in accordance with the discussions. The objective was to provide preliminary information for the South Australian Health Commission so that it could advise on an overall assessment program for the site.

The following components were included in the preliminary program:

(a) Six boreholes in the carpark are to the east of Litchfield House. These were tested for possible coke ash contaminants and market garden contaminants

(b) In an area of the site where rubble burial was suspected, backhoe excavation was carried out to determine the depth and physical nature of any buried rubble. Observations were made of possible contaminants in the rubble including asbestos, bitumen and metals. An area of 3 m x 5 m, located approximately 5.2 m south of the Hospital Paddock fenceline, was investigated using this method.

(c) One borehole in each of three other locations where coke ash was suspected (one of these is also a former market garden). Testing will be similar to (a).

(d) Two boreholes in a former orchard area (between ward nos. 4 and 6). These were tested for contaminants which may have resulted from chemical treatment and ash disposal.

(e) Two boreholes in the "Hospital Paddock". Tests were carried out for some of the contaminants which may have arisen from chemical treatment activities.

Where necessary, multiple samples were taken from individual boreholes. This was carried out in boreholes located south of the Industrial Therapy Building and on the Square Acre.

The above program provided relatively intense testing in one location, plus a preliminary investigation of selected other areas.

2. Background Information

2.1 Property/Address

Fosters Road, Gilles Plains.

2.2 Owner

The site is Crown Land with management and control vested in the South Australian State Government and the South Australian Health Commission.

2.3 Party Responsible for Assessment

Department of Environment and Natural Resources
Resource Management Division
Treasury Building
144 King William Street
ADELAIDE SA 5000

Attention: Mr. Peter Lawrence

2.4 Environmental Consultants

RUST PPK Pty Ltd
100 North Terrace
ADELAIDE SA 5000

2.5 Proposed Land Use

Residential - adults and children.

2.6 Land

It has been proposed to divide Section 872 into Lots 100, 101, 102 and 103. The site can then be described by:

- Lot 103 of proposed division of Section 872 which contains 46.1 ha.
- Section 855 which contains 2.3 ha.

Both are situated in the Hundred of Yatala, County of Adelaide.

Throughout this report, Lot 103 of proposed division of Section 872 will be referred to as "proposed Lot 103".

2.7 Operator of Site

The South Australian Health Commission.

3. Site Description

The site is generally bounded by Grand Junction Road to the north, by Fosters Road to the west, by a new housing development to the south and by the IDSC (Intellectual Disability Services Council) Strathmont Centre to the east. Refer to the locality map in Appendix A and the current site plan in Appendix B, drawing 27F306A/01/O.

Proposed Lot 103 contains roughly 46.1 ha, and is occupied by Hillcrest Hospital as shown on the current site plan in Appendix B. The bulk of this area contains buildings required for the accommodation and care of patients and for purposes of administration. Other buildings which were of importance in this assessment were the boiler house and the garage/garden compound.

Appendix B contains the site plan of Hillcrest Hospital buildings as they were in 1988, which was provided by Mr Sven Karlsson, Administration Officer, Hospital Services.

The northern portion of proposed Lot 103, referred to as the "Hospital Paddock" is used by the Department of Primary Industries, formerly the Department of Agriculture, for the purpose of cultivating cereal crops at the request of Hillcrest Hospital. This agricultural area can be seen clearly in the aerial photograph shown in Appendix C.

Section 855 contains 2.3 ha and is used by the neighbouring IDSC Strathmont Centre. It contains a carpark area.

Please note that all maps show north as pointing to the top of page.

4. Site Inspection

4.1 Topography

The site is fairly flat.

Stormwater drains from the site at two locations. One location is behind Ward 1 (Anderson House) on the eastern side of the property, as shown in photograph 15 in Appendix D. Housing is likely to be built very close to this storm water outlet, however a drain has been recently placed near the outlet.

Storm water also exits the property, via a creek which runs through the hospital paddock in a north-westerly direction. The storm water from this outlet joins a creek on the opposite side of Grand Junction Road. The creek which runs through the "hospital paddock" is usually dry but flows during periods of rain. It can be seen clearly in the aerial photograph which is in Appendix C.

4.2 Local Geographical Features of Relevance

On the southern side of the property north of the Telecom tower a small brick building houses a groundwater pump. Its location is shown on the current site plan in Appendix B, drawing 27F306A/01/O.

The presence of this groundwater pump suggests the existence of shallow groundwater.

Further information about the groundwater pump is given in Section 7.2.

4.3 Local Soil Types

Published information suggests that the near surface geological strata at the site belong to either the Keswick Clay or the Pooraka Formation groups, which are both of Quaternary age. Keswick Clay comprises stiff green or yellow brown silty clay of very high reactivity, and is associated with the Black Earth type BE pedeological group. Soils of the Pooraka Formation are typically reddish brown clays with variable amounts of silt and sand, and some calcium carbonate content. They are correlated with Red Brown Earth types RB4 and RB8 in the region of the study.

Copies of logs of earlier boreholes in the site were obtained from the Department of Mines and Energy. Reference to these previous borelogs contained in Appendix F for the site shows that the soil profile varies somewhat, but resembles an RB8 pedeological classification. It generally comprises successive high plasticity, calcareous clay layers of brown, red brown and white colouration to a depth of approximately 1.5 m. Underlying these layers is a highly plastic mottled grey, brown and yellow clay which extends to 4-5 m depth. The profile then grades to a clayey sand representing weathered sandstone.

The extensive depth of reactive clay present at the site means that very large surface soil movements will occur with changes in moisture content. The significant concentrations of

calcareous silt at some locations within the uppermost part of the profile may lead to settlement and loss of strength of these foundation soils should the silt become wetted.

No groundwater was struck in any of the previous boreholes for the site that were available, though shallow water tables may occur if infiltrating surface water perches on the relatively impermeable clay layers near to the surface.

4.4 Evidence of Possible Contamination and Other Potential Liabilities

This section will outline the potential types of contamination which were observed and that which was not visually apparent, but reported by employees, past and present who guided the co-authors around the property.

4.4.1 The Central Boiler House - Coke Ash

The central boiler house was built to provide steam to all the wards and to the administration building, for the purposes of heating.

Originally, the boilers were coke fired. Later they were changed to gas fired operation and stopped functioning 3-4 years ago. In the period that the boiler house was coke fired, incomplete products of combustion, coke ash, sometimes referred to as cinders, were often used as a landscaping medium or as land fill at different sites on the hospital grounds. Coke ash was disposed of in this method due to the high cost of transporting the waste to the Wingfield dump and the high cost of bringing a cleaner source of fill onto the site.

Areas within the hospital site where coke ash is believed to have been buried are shown in Appendix G, drawing number 27F306A/02/O. This map has been drawn based on anecdotal evidence given at the site visit.

Coke ash contains high levels of PAHs, Polycyclic Aromatic Hydrocarbons some of which are suspected to be carcinogenic when ingested or absorbed through the skin.

An incinerator is also located in the same building as the central boilers. It is thought to have burnt mainly paper rubbish. Incomplete products of combustion from the incinerator would also have contained PAHs but no information on landscaping using the incinerator ashes was reported. Photographs showing areas suspected of being contaminated with coke ash are shown in Appendix D.

- **Photograph 1** shows "square acre" which is a grassed lawn to the east of the chapel and Ward 4. Coke ash has possibly been buried to a depth of 1.2-1.5 metres at this location.

- **Photograph 1a** shows the lawns to the south of the IT workshop which are possibly contaminated with coke ash to an unknown depth.

- **Photograph 2** shows the central boiler house.

- **Photograph 3** shows concrete bunding around an oil storage area - the incinerator was perhaps oil fired.

Note: Drawing 27F306A/02/O in Appendix G shows the locations where the above photographs were taken.

4.4.2 The Central Boiler House - Underground Piping Insulated With Materials Possibly Containing Asbestos

The presence of underground piping insulated with materials possibly containing asbestos was suggested at the site visit, but the positions of such piping was not known at the initial site inspection. On the second site visit however, underground piping insulated with materials which may contain asbestos was uncovered and photographed. In some areas outer piping had deteriorated exposing the insulation.

The steam and condensate pipes in use until 3-4 years ago, are located in the rafters of covered walkways connecting major buildings. The insulation is probably not asbestos, but most likely synthetic mineral fibre.

4.4.3 Diesel Bowser and Associated Garage/Garden Compound

The diesel bowser and associated underground storage tank is located to the eastern side of the garage/garden compound. The underground tank has a capacity of 4500 L and roughly 1500 L remain in the tank (September 14, 1994), according to Mr Howard Thiele, the head gardener. The diesel bowser is shown in photograph 5, Appendix D. It can be seen that the area in front of the bowser has not been concreted and spillage onto the bare earth has occurred. In addition, leakage may have occurred from the underground tank into the soil. Diesel contains PAHs and TPHs (Total Petroleum Hydrocarbons).

On the western side of the vehicle maintenance shed (the largest shed on the garage/garden compound), old batteries and service oil have been stored. This is shown in photograph 6 in Appendix D. Although the area is concreted, the tap situated above the batteries could spread any leakage onto the grass. Battery acid contains PCBs (Polychlorinated Biphenyls).

4.4.4 Old Substation

Generally, substations older than 20 years are regarded as possibly containing PCBs in their transformer oil. All substations on the site are less than 15 years old except for one which was located on the southern side of the central boiler house. The substation has since been removed, but transformer oil may have leaked into the soil while it was in service. Refer to photograph 7 in Appendix D. The former location of the substation is shown on a site plan in Appendix G, drawing 27F306A/05/O.

4.4.5 Burial of Bitumen Carpark and Road

Photograph 8 shows the lawn to the south of Salter Hall. A bitumen carpark was originally on this site and is believed to have been not removed, but was covered with soil, some 12 years ago.

An old bitumen roadway on the eastern end of the oval was also covered with a fill of unknown origin.

Drawing 27F306A/05/O in Appendix G shows the locations where burial of the bitumen carpark and roadway have occurred.

4.4.6 Black Ant, White Ant and Bull Ant Treatment

The occupational therapy building is timber framed and formerly it was used as a school. It has been treated for white ants in the past. Photograph 9 shows a location on the northern side of the "square acre" lawn where black and bull ant treatment has occurred. Suspected locations of white ant, black ant and bull ant treatment are shown on the site plan in Appendix G, drawing 27F306A/05/O.

Insecticides used to eradicate ants and in particular white ants, in the past contained organochlorines which are very toxic and take long lengths of time to breakdown.

4.4.7 Areas Contaminated with Building Salvage

Areas where building salvage is believed to have been used as landfill, are shown in Appendix G, drawing number 27F306A/03/O. This map has been drawn based on anecdotal evidence given at the site visits by Mr Howard Thiele and Mr Frank Rogers, the present and former gardeners. Some of this anecdotal evidence was verified by inspection of aerial photography.

Wards 2, 3 and 9 have been demolished. Anecdotal evidence indicates that the foundations of the buildings to a depth of 2 m were removed, crushed and then returned as backfill. This may cause subsidence in the soil at a later date and may pose limitations for building in the future.

Materials containing asbestos were removed from Wards 2, 3 and 9 prior to demolition so there is little chance that the land these buildings occupied is contaminated with asbestos. (Based on information derived from the Survey Report of Hillcrest Hospital for the Presence of Asbestos, published by SACON in 1990.)

Photograph 10 in Appendix D shows the former site occupied by Ward 3 and an old bitumen pave way which may contain PAHs. Overt signs of building rubble at the surface are not present.

It was indicated that the garage/garden compound was landscaped with building salvage from the south-eastern corner of the Hampstead Hospital. This occurred sometime between 1970 and 1975. The building rubble is thought to have consisted mainly of 12 ft x 12 ft concrete slabs. It is not known if this building salvage contained asbestos.

A section of land to the north of the former Ward 3 has been filled with large concrete pieces, the quantity of which was estimated to be approximately 1,000 tonnes. About 50 trenches running north-south each approximately 3.5 metres deep and 1 metre wide were dug and the concrete pieces were buried in this way. Photograph 11 shows the site where this activity occurred. (Specified location and quantity based on anecdotal information received from Mr Frank Rogers.)

Building rubble has also been buried on land to the north of James Nash House. In this instance brick, concrete and other rubble from the construction of the psychogeriatric unit

were buried (based on anecdotal evidence). This is possibly the cause of soil subsidence reported in the area - in one incident "a tractor fell into a hole" which had appeared; in other incidents, tools have disappeared into cracks which appear. The gardeners have tackled the situation by filling in cracks and holes that appear with clean fill. Photograph 12 shows the site where this activity occurred.

The land which is now occupied by Litchfield House and a carpark, was previously used to bury approximately 1,000 pieces of concrete curbing, on top of this was added 250 mm of coke ash from the boiler then 6 cm of soil was placed over the coke ash. Litchfield House has been built on piles possibly due to the soil instability associated with areas filled with building salvage. (Details of the type and quantity of landfill are based on anecdotal information received from Mr Frank Rogers.)

Ward 8 has a small amount of landscaping on its northern side. According to Mr Howard Thiele rocks lie under the slope which has been created.

There is a large pile of assorted waste in the vicinity of James Nash House. Its location is shown on drawing 27F306A/05/O in Appendix G. The waste is comprised of soil mixed with building salvage and large slabs of concrete and bitumen. Refer to photograph 13.

Soil subsidence was reported to have occurred on a former market gardening area to the south of James Nash House (anecdotal evidence from Mr Frank Rogers), but burial of building rubble wasn't reported (see Drawing 27F306A/08/O).

4.4.8 Weed Killers/Pesticides/Insecticides

It was reported by Mr Howard Thiele that Zero and Round-up have been used over the last 15 years. Prior to that, soil sterilants were used but were confined to spot areas.

Herbicides have been applied around the edges of buildings, signs and pavements from a tank transported by tractor.

4.4.9 Heritage Listed Buildings

Two buildings on the site have been granted heritage listing, namely the mortuary building located north of the boiler house and the administration block. The mortuary is a small building now used as a paint workshop. It is surrounded by old bitumen which may be contaminated with PAHs. See photograph 14 in Appendix D.

4.4.10 IDSC Strathmont Carpark/Dumping Area

Section 855 (see drawing number 27F306A/01/O in Appendix G) is occupied by IDSC (Intellectual Disability Service Council). It is primarily used as a carpark by nearby workshop employees and other IDSC staff. The gravelled carpark is located on the south-eastern corner of Section 855.

A 300 L overhead diesel storage tank is located on the western side of Section 855. Some local spillage has occurred onto the exposed earth. This is shown in photographs 16 and 17.

Building rubble, garden clippings and soil have been dumped in piles, north of the carpark, but are apparently removed periodically. One such pile is shown in photograph 18.

The foundations of a small concrete building have been left in the ground and are shown in photograph 19.

4.4.11 Petrol Bowsers and Associated Underground Storage Tanks

Two petrol bowsers are located in a westerly direction from the mortuary building. One of the bowsers dispenses leaded petrol and the other dispenses unleaded petrol.

The fill point for the underground storage tank associated with the unleaded petrol bowser is located approximately 28.5 m west and 6.5 m south from the south-western corner of the mortuary. Two other fill points were located approximately 2.4 m and 5.3 m respectively, west of the unleaded petrol fill point. Hence a total of three filling point were apparent, suggesting that three underground storage tanks are present.

It is not known how long the tanks have been in place.

The petrol bowsers are shown in photograph 25 and the fill point for the unleaded petrol underground storage tank is shown in photograph 26. The location of the petrol bowsers is shown on drawing 27F306A/05/O contained in Appendix G.

4.4.12 Chemical Storage Building

A chemical storage building exists and is located approximately 35.5 m west from the south-western corner of the mortuary. It is a small brick structure, with raised wooden slats over a hard surface. It could not be ascertained if the surface was sealed with concrete. The storage building contained paint thinners, wood lacquer and mineral turps.

If the structure is not concrete lined, contamination of the soil could possibly have occurred in the past in the event of spillage. The approximate location of the chemical storage building is shown on drawing 27F306A/05/O contained in Appendix G.

5. History of Site

5.1 Overview

5.1.1 Current Site Activities

Staff and patients are preparing to leave those buildings on the area of the site which is to be sold and rezoned, hence the wards are all gradually becoming disused. The garage/gardening compound is still fully utilised, as is the administration building. The SACON workshops, electrical workshops and hospital workshops are all redundant buildings.

Although only the administration building and the former mortuary have received State Heritage classification, the Enfield Council is currently undertaking investigation of the site and may decide to protect some of the buildings which are of unusual "H" shape construction. Ward 1 is of particular interest in this respect.

The Department of Primary Industries continues to farm the northern part of proposed Lot 103, the Hospital Paddock.

Section 855 is used as a carpark by IDSC workshop employees. Dumping of garden and building waste is apparent at the northern part of this section.

5.1.2 Buildings and Underground Pipework

Prior to 1926 the site of Hillcrest Hospital (including Section 855 now occupied by IDSC Strathmont) was used mainly for growing cereal crops and perhaps some grazing. Up until 1926 the site was known as Williams Farm. Construction of Wards 1 and 5 began in 1926 and was completed by 1929.

By 1949, Wards 1, 2, 3, 4, 5, 6 and 7 and the administration building had been completed as had the covered walkways which connected the buildings.

By 1959, Wards 8, 9 and 10 had been completed. Aerial photography shows that by 1959, the groundwater pump had also been installed.

In 1961 the central boiler was installed. Underground steam and condensate pipes ran parallel with the covered walkways. These pipes are highly likely to be insulated with materials containing asbestos.

In 1968, the Industrial Therapy (IT) Workshop was built and by 1975 the Linen Sorting Building was built. Steam was used in the IT workshop for some kind of steam cleaning, while in the Linen Sorting building, steam was probably used for heating or perhaps for ironing presses. Steam was supplied to these buildings from the central boiler house, via underground asbestos insulated pipework. About 18-20 years ago, underground external steam and condensate piping was made redundant when piping was run through the rafters of the covered walkways connecting the buildings - with the exception of Wards 9 and 10, the IT Workshop and the Linen Sorting Building which weren't connected by covered walkways. There is no evidence to suggest that any of the underground pipework insulated with materials possibly containing asbestos, has been removed. Drawing 27F306A/04/O in

Appendix G shows the locations where steam and condensate piping lagged with asbestos containing materials may be buried.

Photograph 20 in Appendix D shows steam and condensate piping between Anderson House (Ward 5) and Howard House (Ward 10). The third newer looking pipe maybe a gas line running through the same trench. Deterioration of outer pipes has exposed the insulation material which possibly contains asbestos.

Photographs 21 to 24 show sections of steam and condensate piping in the vicinity of the IT workshop and linen sorting building. Again, deterioration of outer pipes has exposed the insulation material which may contain asbestos. The locations where these photographs were taken are shown on Drawing 27F306A/04/O.

Between 1970 and 1975, aerial photography confirms that the garage/garden compound was landscaped and that one shed had been built. Litchfield House and Mason House had been built by 1975. Section 855 contained one large shed and a smaller shed surrounded by bitumen in the south-west corner by 1975.

By 1981, all the main sheds had been built on the garage/garden complex and foundations had been laid for the Psychogeriatric Ward which was built on piles possibly because bore tests revealed that the soil was highly expansive (these two buildings are not part of the property we are investigating). The sheds on Section 855 were moved north so that they no longer occupied this section.

By 1989 James Nash House had been built. (This building is not actually part of the property we are investigating.) The repatriation ward (Ward 7), to the south of the former occupational therapy building, was demolished in 1988. Building salvage from this demolition was removed from the site and clean garden loam is thought to have been used as backfill (anecdotal evidence from Mr Frank Rogers). Today the site is used as a picnic area with trees and lawn.

The overhead diesel storage facility and carpark as it appears today were in place on Section 855 by 1989.

Wards 2 and 3 were demolished in 1991 and Ward 9 was demolished in 1993. The foundations of these buildings were dug out to two metres, crushed then returned as backfill (anecdotal evidence supplied by Mr David Palmer and Mr Sven Karlsson).

A Telecom Radio Tower was built, south of the groundwater pump by 1992.

5.1.3 Farming Activity

When the hospital first began operation in 1929, great importance was placed on the hospital being able to provide a significant portion if its food requirements. Hence in 1929 £1,000 was spent on horses, cows, seed and implements for the purposes of stocking a farm on the hospital grounds. Averil G. Holt, historian who wrote the jubilee history of Hillcrest Hospital makes reference to this farm a few times revealing that at one time pigs were farmed.

However she fails to identify where the farm actually was on the property. It is possible that "the farm" that she refers to, was the area now termed "the Hospital Paddock" (see site plan, Drawing 27F306A/01/O in Appendix B).

The Hospital Paddock

By the early 60s, there was less pressure on hospitals to be self-sufficient in supplying food and therapy for patients changed from farming pursuits to indoor activities. This saw the farm at the top of the site near Grand Junction Road deteriorate and according to Mr Allan Fishley from the Department of Primary Industries, from the early 1960s the farm has been tended by the Department of Primary Industries.

Since late 1960s:

Logs of activities on the Hospital Paddock have been kept since the late 1960s. The field since then has been used to plant cereal crops, with sheep grazing on stubble only at the end of harvest. No chemical dipping of sheep was done on this property and chemical fertilisers, pesticides and insecticides were all prepared for use outside the hospital property before being used on the paddock. (The Department of Agriculture own land to the west and south of the hospital.)

According to the activity log:

Fertilisers used on the paddock since the late 1960s include:

- 2:1 (Nitrogen: Phosphate) Super
- Super Phosphate
- Super Ammonia
- Urea.

Pesticides and insecticides used on the paddock since the late 1960s include:

- MCPA
- Borox
- Tordon D
- Amine
- Propon
- Rogor
- 2,4-D
- Treflan
- Simizine
- Gromoxone
- Reglone
- Avadex
- 2,4 D Ester (LV)
- Gleam
- Diuron
- Ally
- Hoegrass.

According to Roger Taylor from the Department of Primary Industries, none of the above named pesticides/insecticides contain organochlorines. Rogor is an organophosphate insecticide, however it biodegrades rapidly.

Prior to the late 1960s

The creek running through the Hospital Paddock, may have been sprayed for mosquitoes in the past (but not since the late 1960s).

Due to the constant farming activities on the hospital paddock and possible animal farming, there is potential for possible contamination.

Market Gardening

Examination of aerial photography dating back to 1949 has revealed intensive market gardening. Please see Appendix G drawing 27F306A/06/O for locations of different types of farming carried out and the dates that they were practised.

Areas where orchards have been in the past may be contaminated with copper sulfate. Other areas used for general farming of vegetables or cereals may be contaminated with organochlorine pesticides.

5.1.4 Areas Contaminated with Coke-ash and Building Rubble

Coke Ash

Each ward, prior to the early 1960s, had its own ideal boiler to provide heating. Patients would be responsible for replenishing coke in the boilers and for removing ash. Ash from these individual boilers was used to make the hospital paths, according to historian Ms Averil G. Holt. Unfortunately she gives no indication as to where these paths were located.

The Central Boilers were installed in 1961. They were fired with coke until 1975 when they were converted to gas fired operation. Between 1961 and 1975, coke ash from the boilers (i.e. solid waste residue) was buried to varying depths at different locations on the site. Drawing 27F306A/02/O in Appendix G gives locations where the coke ash has been buried based on anecdotal evidence. The anecdotal evidence received came from people who had been employed on the site no earlier than 1973, hence other areas may be contaminated which they have no knowledge of.

In all cases of coke ash burial, disposal areas were subsequently covered with topsoil and grassed leaving no evidence of contamination.

Building Rubble

Section 4.4.7 outlines the anecdotal evidence received relating to the disposal of building rubble. Areas contaminated with building rubble are summarised in Drawing 27F306A/03/O, which is based largely on anecdotal evidence.

Aerial photography dating from 1949, allowed approximations to be made of the dates when burial of building rubble on some areas occurred. In other cases it was not possible to confirm anecdotal information through inspection of aerial photography.

Areas which were confirmed through aerial photography of containing buried waste were:

- The area north of Ward 3 and James Nash House (refer to Drawing 27F306A/03/O in Appendix G).
- The garage/garden compound (refer to Drawing 27F306A/03/O).
- The area to the south of James Nash House, between the James Nash carpark and Barnett House where soil subsidence has been reported to have occurred (refer to Drawing 27F306A/08/O in Appendix G).

5.1.5 *Leaded and Unleaded Petrol Underground Storage Tanks*

Two petrol bowsers and three underground storage tanks were installed at an unknown date, west of the mortuary. The approximate location of the underground storage tanks is shown in Drawing 27F306A/05/O contained in Appendix G.

Enquiries were made to the Department of Industrial Affairs and the following conclusions were made regarding the location, volume and type of fluid held for each of the tanks:

- One underground tank for the storage of unleaded petrol is located approximately 28.5 m west and 6.5 m south from the south-western corner of the mortuary. The tank has a volume of approximately 4,850 l. It is suspected that the tank is empty, and it may have contained leaded petrol in the past.

- A second underground tank, for the storage of leaded petrol, is located approximately 30.9 m west and 6.5 m south from the south-western corner of the mortuary. The tank has a volume of approximately 5,370 l and has been abandoned, (ie no longer services either of the bowsers), suggesting that it may be empty.

- A third underground tank, for the storage of leaded petrol, is located approximately 33.8 m west and 6.5 m south from the south-western corner of the mortuary. The tank has a volume of approximately 4,850 l and it is not known whether it contains any petrol at the present time.

5.2 Sources of Information and Verification of Information

5.2.1 Visits to Site

Two formal visits were made to Hillcrest Hospital. The first visit, on the 14 September, the co-authors spoke to Mr Sven Karlsson, the administration officer of hospital services and were guided around the hospital grounds by Mr Howard Thiele, the head gardener. On the second visit to the site conducted on the 23 September, a former gardener Mr Frank Rogers gave a tour of the site. On both of these occasions photographs were taken.

The IDSC Strathmont carpark site (Section 855) was also visited on the 23 September. The co-author spoke to Mr Frank Moyle of IDSC General Services. Photographs were also taken on this occasion.

5.2.2 Conversations

Due to the lack of documented records, the anecdotal information that the above named people provided was used as the basis, for initially locating contaminated areas or possibly contaminated areas. Follow up phone calls were made and the following people were able to confirm or clarify some information derived from the site visits:

- Ms Evonne Reynolds - State Heritage
- Mr Wayne Ashton - Building Services for Glenside/Hillcrest Hospitals
- Mr Dave Palmer - former SACON employee at Hillcrest Hospital
- Mr Allan Fishley - Department of Agriculture - responsible for the Hospital Paddock
- Mr Robert Taylor - Department of Agriculture
- Ms Christal Neuhofer - Department of Environment and Natural Resources.

Other people were also consulted but could not provide any useful information.

5.2.3 Publications

The following publications were able to provide some information:

- *Survey Report of Hillcrest Hospital for Presence of Asbestos*
  (Produced by the SACON Asbestos Liaison Unit, Printed September 1990)

  Site plans and photographs appearing in Appendix A of the above publication provided information regarding locations of underground pipework insulated with materials which may contain asbestos.

- *Hillcrest Hospital - The Fist 50 Years, Commemorating the Golden Jubilee of Northfield Mental Hospital (1992-1964)*
  (Written by Averil G. Holt, Published 1979)

  This publication gave the years in which certain buildings were built. An early photograph of a section of the covered walkway - showing no sign of steam and condensate pipework in its roof space - confirmed the anecdotal evidence that steam and condensate piping associated with the central boiler house was originally buried underground.

5.2.4 Government Departments

- *Land Titles Office*

  For full details, refer below to Section 5.2.5.

- *Department of Environment & Land Management*

  Anecdotal evidence relating to the land history prior to 1898 was received from Sarah Poulton, historian.

- *Department of Mines & Energy*

  Information was sought from this department regarding the groundwater pump located on the hospital site and any geological features of relevance within the vicinity of the pump. Borelogs were obtained and are included in Appendix F.

- *Mapland, Department of Environment & Natural Resources*

  Aerial photographs from 1949 were examined to confirm or clarify anecdotal evidence. The photos revealed:

  - when buildings and other structures were built or destroyed
  - areas of the hospital that have been used for farming purposes in the past
  - history of adjacent land use.

  For details, refer below to Section 5.2.6.

- *Department for Industrial Affairs*

  A plan drawing showing the locations of the leaded and unleaded petrol storage tanks was obtained.

5.2.5 History of Ownership

The history of ownership below relates to both sections 855 and proposed Lot 103.

- Prior to 1898, various cereal crop and grazing farmers occupied the land. They included Edward Meade Baggot in 1876 and Hart & Walters in 1881 (based on anecdotal evidence as outlined in Section 5.2.4).

- 30 June 1898, the site was transferred to Johnny Williams of Daisy Hills near Oakbank farms.

- 26 May 1917, the title was transferred to Sarah Hannah Williams and William McEwen of Adelaide Auctioneers.

- 9 June 1917, the title was transferred to William Alfred Augustus West of Adelaide, then on the same day transferred to the Crown (State Government) when the land was dedicated for "Northfield Mental Hospital".

- The land is still classified as Crown Land.

Title Reference

Copies of two Certificates of Title have been obtained from the Lands Title Office and are contained in Appendix E. They are:

- Certificate of Title, Volume 637 Folio 7
- Certificate of Title, Volume 637 Folio 8.

Both Certificates were cancelled on 9 June 1917 when the land became the property of the Crown (South Australian State Government). There is no current Certificate of Title.

5.2.6 Aerial Photography Examined

Aerial photographs of the Hillcrest Hospital site taken over the following years were examined:

- 10 January, 1949 - Survey 7
- 3 January, 1959 - Survey 326
- 13 April, 1965 - Survey 811
- 1 April, 1969 - Survey 1157
- 20 June, 1975 - Survey 1833
- 13 January, 1980 - Survey 2651
- 18 February, 1985 - Survey 3220
- 28 September, 1989 - Survey 4108
- 25 February, 1992 - Survey 4499
- 19 September, 1993 - Survey 4704

A summary is given of the features noted in each photograph.

10 January, 1949

- Wards 1, 2, 3, 4, 5, 6, 7 and the administration building had been built. Covered walkways connecting these buildings had also been built.

- The Hospital Paddock was used for growing some kind of crop. The stormwater outlet through the paddock was more towards Fosters Road, to the west of Ward 3.

- Extensive market gardening was also carried out on the rest of the property. The entire area west of Wards 3, 1 and 5 up to Fosters Road contained many small plots of different crops. Land that is now occupied by the top section of Ward 10 and the garage/garden compound was used as an orchard.

- The sports oval could be seen.

- Surrounding land to the south of the hospital site appeared to be vacant. Land to the north, east and west of the site was used for agricultural purposes (crops).

- Section 855 was used for agricultural purposes, but really just an extension of the hospital paddock.

3 January, 1959

- Wards 8, 9 and 10 had been built. The groundwater pump to the east of Ward 8 was also in place. The covered walkway had been extended to Ward 8.

- The Hospital Paddock was still used for agricultural cropping purposes. The stormwater drainage through the paddock had now moved to a position adjacent to Ward 3, with the water flowing in a north-easterly direction.

- An orchard existed on the northern side of Ward 3. The area of land to the west of Wards 3, 1 and 5 used for market gardening had shrunk, with no gardening plots in the immediate vicinity of wards. An orchard was apparent between Wards 2 and 10 and extended on to the southern side of Ward 10. An orchard was also apparent on the southern side of Ward 6, extending to the southern boundary, and up to the covered walkway. Crops of some kind had also been planted to the immediate east of Ward 8.

- Surrounding land use was markedly agricultural, but land to the south remained vacant. ETSA had begun its operations on the opposite side of Fosters Road, adjacent to the Hospital Paddock.

13 April, 1965

- The Boiler House had been built. SACON workshops had appeared. The Occupational Therapy building had been built as had three small sheds to the east of Ward 2. Barnett House, a hospital residence had been built.

- The Hospital Paddock was used for agricultural purposes (cropping) with stormwater travelling its current course through the property, but coming to rest in a dam on the opposite side of Grand Junction Road rather than joining a creek further north as it does today.

- The extent or market gardening had been reduced, with what appears to be orchards to the west of Ward 1, the north of Ward 3, between Wards 2 and 10, and between Wards 10 and 6. The orchard to the south of Ward 2 seems to be declining, with the number of trees fewer than before.

- The oval in all previous photographs and in this one, was smaller in size than it is currently, and a roundabout existed at its northern end, with a two-way bitumen road only on its southern side.

- The Department of Agriculture had constructed a building and carpark on the opposite side of Fosters Road, adjacent to the oval.

1 April, 1969

- The Industrial Therapy (IT) Workshop had been built.

- Building of the Intellectual Disability Service Council (IDSC) Strathmont Centre had commenced.

- The flow of stormwater through the Hospital Paddock joined the creek on the opposite side of Grand Junction Road as it does today.

- All market gardening, except for a small area on the western side of Ward 1 seemed to be declining.

20 June, 1975

- Section 855 had two sheds built on it, as well as a small building all on the eastern side of the section. Bitumen appeared to be laid around these structures.

- Leitchfield House had been built, and the land immediately east appeared to glisten, probably because bitumen for the carpark had just been laid. The Linen Sorting building had also been built.

- The new Psychogeriatric Ward had been built (however this is not part of the site we are reviewing).

- Building of the garage/garden compound had begun, with one small shed in place. This area did look as though it had been filled, since the earth was quite bare.

13 January, 1980

- Foundations for Mason House were being laid (however this is not part of the site we are reviewing).

- The garage/garden compound had been completed.

- The sheds on Section 855 had been moved east, so that were no longer built on the section.

- Land to the north of Ward 3 looked bare, implying burial of waste has occurred (confirming anecdotal evidence).

18 February, 1985

- Market gardening was confined to the area between the Linen Sorting building and Barnett House on Fosters Road. Mason House had been completed.

- Bare patches of earth running from the northern side of Ward 3, along the Hospital Paddock fence line towards Fosters Road were apparent. This suggests that some burial may have occurred and would explain the anecdotal evidence received relating to subsidence in the area.

- Some building had commenced on the opposite side of Grand Junction Road.

28 September, 1989

- James Nash House had been built.
- The Repatriation Ward, Ward 7 had been demolished.
- Site of the former market garden between Barnet House residence and the James Nash carpark, appeared bare suggesting burial had taken place which would explain the anecdotal evidence received relating to subsidence in the area.
- The overhead diesel storage facility on Section 855 was in place as was the carpark. The fire station, north of Section 855 had also been built.
- Numerous small experimental agricultural plots had been established by the Department of Agriculture on the western side of Fosters Road.

25 February, 1992

- The Telecom Radio Tower had been built south of the groundwater pump.
- Wards 2 and 3 had been demolished.

19 September, 1993

- Ward 9 had been demolished.
- The rubbish heap photographed (Photograph No. 13) in James Nash House was clearly visible.
- Site of the former market garden between Barnet House residence and James Nash carpark appeared to be recovering (i.e. grass growing back over bare earth).

5.3 Maps Detailing Historical Uses

Maps detailing historical use of land are given in Appendix G. They are:

- Drawing 27F306A/02/O - possible areas contaminated with coke ash.
- Drawing 27F306A/03/O - areas of suspected burial of building rubble.
- Drawing 27F306A/04/O - external underground pipework insulated with materials which may contain asbestos.
- Drawing 27F306A/05/O - areas of potential contamination from miscellaneous sources.
- Drawing 27F306A/06/O - sites formerly occupied by market gardens or orchards.
- Drawing 27F306A/07/O - sites of landscaping with unknown sources of fill.
- Drawing 27F306A/08/O - geotechnical issues.

Information presented in these drawings is discussed in detail in Section 6.

5.4 History of Adjacent Land Use

Aerial photography has been examined, dating from 1949 to the present.

- In 1949 land to the north, east and west of the investigated site, was used for agricultural cropping activity. Land to the south appeared to be vacant.

- By 1959, ETSA transmission towers had been built opposite the hospital paddock at the intersection of Fosters Road and Grand Junction Road. Apart from this change the adjacent land use remained as it was in 1949.

- By 1965 the Department of Agriculture had constructed a large building and associated carpark roughly opposite the hospital oval on the western side of Fosters Road.

- By 1970 noticeable agricultural activity was in progress to the south of the hospital. The aerial photo showed evidence of some cultivation and 5 sheds had been erected suggesting chemical storage or animal farming.

  Construction of the IDSC Strathmont Training Centre to the east of the hospital had also begun by 1970.

- By 1989 a womens rehabilitation centre had been built north of the hospital paddock on the northern side of Grand Junction Road. North of Section 855 a fire station had also been built.

  The Department of Agriculture had established many small experimental cropping plots south of the ETSA transmission towers.

  In the last year, residential development has begun on the southern and south-eastern sides of the property.

6. Summary of Potentially Contaminated Areas

6.1 General

The sources of contamination and related potential liabilities encountered during the investigation of this site fell into the following categories:

- Areas possibly contaminated with coke ash.
- Areas where suspected burial of building rubble has occurred.
- An external underground pipe network insulated with materials which may contain asbestos.
- Areas of potential contamination from miscellaneous sources.
- Sites formerly occupied by market gardens or orchards.
- Sites of landscaping with unknown sources of fill.
- Related geotechnical issues.

Each of the above types of contamination or related potential liability, is perceived as posing a potential risk to future redevelopment of the site - either through the impact on the health of future occupants or through the impeding effects on future building development.

6.2 Areas Possibly Contaminated with Coke Ash

Prior to 1961, hospital wards and other major buildings contained individual boilers for the purpose of heating. Then in 1961 Central Boilers were installed which supplied heating steam to all buildings.

Until 1975, a solid fuel, coke was used to fire the boilers. The incomplete product of combustion, coke ash was used in different areas for the purpose of landscaping, as a source of landfill or for creating pathways.

Coke ash contains Polycyclic Aromatic Hydrocarbons (PAHs) some of which are suspected to be carcinogenic.

Areas where coke ash has been buried can't be identified visually, since areas were covered with top soil and grassed, leaving no evidence.

Drawing 27F306A/02/O in Appendix G shows areas where burial of coke ash is suspected, based on anecdotal evidence.

6.3 Areas Where Burial of Building Rubble Has Occurred

Building rubble buried around the hospital includes:

- the foundations of former buildings which have been reworked into the soil after demolition; and
- foreign sources of building salvage, in which case burial has been a means of disposal.

This type of contaminant implies building limitations, as far as earth works and future subsidence are concerned. Soil subsidence has been reported to have occurred in two buried disposal areas.

Areas containing building salvage may also be chemically contaminated in cases where bitumen rubble (possibly containing PAHs) was used as landfill or where asbestos insulation is included in the building rubble. Asbestos fibres, when inhaled increase the risk of particular respiratory diseases which may be terminal.

Drawing 27F306A/03/O in Appendix G shows areas where suspected burial of building rubble has occurred, based on anecdotal evidence, some of which has been confirmed by aerial photography.

6.4 An External Underground Pipework Insulated With Material Which May Contain Asbestos

When the Central Boiler House was installed in 1961, an underground network of steam and return condensate pipes which linked the major buildings to the Boiler House was also established. These pipes are insulated with a material which is likely to contain asbestos.

These pipes are most likely not laid in trenches, but are buried under soil and gravel. There is no evidence to suggest that these steam and condensate pipes which are now redundant, have been removed.

Drawing 27F306A/04/O in Appendix G shows the external underground pipework insulated with material which may contain asbestos.

6.5 Underground Fuel Storage Tanks

An estimated four in total underground fuel storage tanks are present on the site. There are two locations. Possible sources of contamination at these locations are as follows:

- Leakage of diesel into the soil via surface spillage or underground storage tank, located in the garage/garden complex. Diesel contains Total Petroleum Hydrocarbons (TPHs) and PAH, both of which may be harmful to human health.

- Leakage of leaded and unleaded petrol into the soil via an estimated three underground storage tanks, located west of the mortuary. Both leaded and unleaded petrol contain TPHs and monocyclic aromatic hydrocarbons (MAH) in particular benzene, toluene, ethyl benzene and xylene (BTEX group). In addition leaded petrol contains lead. Each of these substances may be harmful to human health.

6.6 Sites Formerly Occupied by Market Gardens or Orchards

The hospital grounds were used extensively for market gardening and orchards in the past. Aerial photography was used to determine which areas on the hospital were and when. This information is shown on Drawing 27F306A/06/O.

Possible chemical contaminants associated with these activities include organochlorine contained in some pesticides used prior to the 1960s and copper sulfate used on orchards in the past.

The Hospital Paddock at the northern end of the property has been used for cropping purposes since at least 1949. Prior to the 1960s organochlorine pesticides may have been used, but they probably haven't been used since the late 1960s.

6.7 Areas of Landscaping with Unknown Sources of Fill

The category of areas were noted during the site inspection as being "raised" areas, however there is no information regarding the landscaping medium or the landfill.

Drawing 27F306A/07/O in Appendix G shows areas of landscaping with unknown sources of fill.

6.8 Areas of Potential Contamination from Miscellaneous Sources

This category of contamination covers smaller, more confined types of contamination, such as:

- Spot treatment for white ants, black ants and bull ants (pesticides used in the past contain organochlorines which are toxic and break down very slowly).
- The site of a former substation which may have contained Polychlorinated Biphenyls (PCBs) in its transformer oil. The transformer oil could have leaked into the soil.
- Buried bituminised areas. Bitumen older than about 15 years may contain PAHs. Bituminised areas that have been covered over, may pose difficulty to future earthworks.

Drawing 27F306A/05/O in Appendix G gives the locations of these smaller areas of possible contamination.

6.9 Other Sources of Possible Contamination

- Additives may have been added to boiler feed water to prevent scaling and limit maintenance problems arising from poor water quality. Some such additives if used in the past may have been toxic, hence leakage through condensate return pipes into the soil structure may have caused slight contamination.
- Most bitumen roads on the site are older than 15 years and possibly may contain PAHs.

7. Other Potential Liabilities

7.1 Telecom Radio Tower

7.1.1 Summary

Extensive enquiries were made to determine the possible need to specify a separation distance between residential housing and the Telecom radio tower installation on the site. This installation was constructed approximately 2 years ago for the purpose of receiving and transmitting mobile radio signals. The installation comprises a brick building with towers on top and a small wire mesh fenced enclosure.

In the end, the enquiries indicated that the separation distance is likely to be governed almost as much by visual, planning and access considerations as by any environmental requirement for a buffer distance separation. However, for reasons discussed below, it is recommended that prudence be applied, and that a separation distance be specified. At present we are unable to make a firm recommendation on distance, however we would suggest that 5-10 metres may be sufficient, subject to further investigation, and subject also to knowledge of the height of the adjacent residential buildings.

7.1.2 Radio Frequency Radiation

Maximum exposure levels of radio-frequency radiation are specified in Australian Standard AS2772.1-1990. This standard is in compliance with international standards which recognise the potential health effects of excessive radiation. The office of the Environment Protection Authority (EPA) advised that, based on information provided to them by operators of mobile telephone towers, it was expected that radiation levels would be much lower than those specified in the standard. It was also pointed out that Commonwealth, rather than State, legislation applies to these operators. At the suggestion of the EPA, enquiries were made with the Radiation Protection Branch of the South Australian Heath Commission. Advice was received that the radiation is not likely to be a hazard, however further enquiries could be made with the operators.

Advice from Telecom is that the Australian Standard radiation levels could be reached two metres in front of the disks, and possibly further away in the event of malfunctions. At ground level, the radiation intensity is orders of magnitude less than in the standard intensity. However Telecom would recommend a small but unspecified buffer, based on the doctrine of prudent avoidance.

7.1.3 Noise

The EPA is unaware of any potential noise emissions. Telecom confirms that noise emissions will be minimal, resulting only from the operation of dual 1.5 KW motors on airconditioning plant.

7.1.4 Other Factors

Telecom will require access for a mobile crane or cherry-picker for tower maintenance.

7.2 Groundwater Pumps

The groundwater pumps were installed some time between 1949 and 1959 on the lawned area east of Ward 8, and north of the Telecom Tower. The pumps are enclosed in a small brick building (refer to Drawing 27F306A/08/O in Appendix G).

Mr Howard Thiele, the present gardener and Mr Dave Palmer, a former maintenance employee at the hospital, believed that the pumps were installed due to water flooding the basement lift area in the administration building, and in the basement area of the psychogeriatric ward (which is built on piles) (see Drawing 27F306A/08/O). This apparently occurred during periods of heavy rain. Mr Frank Rogers, a former gardener at the hospital, believed the pumps were installed for the purpose of obtaining irrigation water. However the water brought to the surface proved unsuitable due to high salinity.

Shallow groundwater drawn by the pumps, joins other sources of stormwater and exits the site via the stormwater runoff behind Ward 6, Anderson House (see Drawing 27F306A/01/O). There is a small possibility that the groundwater is contaminated with PAHs (Polycyclic Aromatic Hydrocarbons), since the burial of coke ash may have occurred in the past in the nearby "Square Acre".

Maintenance of the pumps is now the responsibility of the Glenside/Hillcrest Building Services Department located at Glenside Hospital. Mr Wayne Ashton of the Building Services Department, is concerned that if the pumps are destroyed during redevelopment, the basement of the psychogeriatric ward may flood.

The pumps operate automatically employing a float mechanism and require regular maintenance checks, especially after periods of heavy rain, when mechanical parts may become blocked with mud.

The pumps were replaced in 1993.

This drainage well and associated pumping is not registered with the Department of Mines and Energy. It is a legal requirement that any well sunk deeper than 2.5 m be declared. The depth of this well has not been ascertained. The depth should be checked and if it is deeper than 2.5 m, a permit is required and can be obtained from Ms Christal Neuhofer at the Department of Environment and Natural Resources.

In light of verbal evidence received, indicating the possible presence of shallow groundwater - it is recommended that the sump pump be retained and that access be kept available for maintenance requirements.

7.3 Uncompacted Soil

Areas where building rubble is suspected to have been buried or areas of landscaping with unknown sources of fill are potentially sites where soil subsidence may occur. These areas are discussed in Sections 6.3 and 6.7. Site plans detailing these area can be found in Appendix G. They are:

- 27F306A/03/O
- 27F306A/07/O
- 27F306A/08/O.

8. Testing

8.1 Drilling and Soil Sampling Methodology

A qualified geotechnical engineer and a qualified chemical engineer from the Adelaide office of RUST PPK supervised the drilling work and recovery of the soil samples for testing and geotechnical logging. Soil sampling was restricted to Section 872.

Details of sampling locations and depths are provided below in Sections 8.2 and 8.3 of this report. Sampling locations are shown on the site plans contained in Appendix H. In summary, there were a total of thirteen sampling locations. Borehole depths ranged from one to two metres at the sample locations 1B to 9B inclusive. Sample depths at locations 10D to 13D inclusive were 150 mm.

Borehole cores from bore hole locations 1B to 9B were recovered using truck mounted hydraulic push tube equipment. At each borehole location, duplicate borehole cores were recovered, one for sampling and one retained for geotechnical logging. To avoid cross-contamination, all push tubes were steam cleaned between sample locations. On completion of drilling activities, all soil from borehole cores was removed from the site and holes were backfilled with a clean source of fill.

Samples from locations 10D to 13D inclusive were extracted by hand using a hammer and dig stick. Three to four 150 mm depth sub-samples were taken from each location and thoroughly mixed, to ensure that enough soil was received for sampling.

Immediately after extraction, the first borehole core recovered from the sample locations 1B to 9B inclusive was sub-sampled for laboratory chemical analysis. The core was placed in a steam cleaned core tray and sub samples extracted were thoroughly representative of discrete nominated depth intervals. Details of these depth intervals for individual samples are included in the Field Work and Sample Details in Appendix I.

Soil samples to be forwarded to the laboratory were given unique sample numbers which are also included in Appendix I together with further details of field work carried out including date, the identification of sampling personnel and the actual soil strata depth for individual samples.

For each of the soil sub-samples forwarded to the laboratory, sample preservation techniques were employed to ensure that there was no deterioration of the samples, such as by volatilisation of contaminants, between sampling and analysis. Sample jars prior to and after sampling were maintained at approximately 4°C by use of polystyrene insulated containers and frozen "cooler" bricks. Sample containers were glass. A teflon disk inserted inside the container lid provides a gas tight seal and also ensures prevention of contamination from the plastic lid.

All samples taken were forwarded to the laboratory. The samples were received by the analytical laboratory within 24 hours of sampling by RUST PPK. The laboratory advises that on arrival the samples were placed in cool storage at 4°C.

Documentation regarding samples despatched to the laboratory and chemical testing required are included on the sample submission forms. These documents formed a chain of custody

record between RUST PPK and the laboratory. On receipt of the samples, the laboratory confirmed their arrival to RUST PPK.

The second borehole core recovered at each location was placed in a core tray which had been previously steam cleaned. On completion of the field work, all intact borehole cores in core trays were forwarded to RUST PPKs Adelaide office.

Upon arrival, geotechnical logs were completed in accordance with AS1726 Geotechnical Site Investigation Code. The borehole logs and explanatory notes are contained in Appendix J. Soil cores were retained for one month at 24°C, although the cores tend to dry out and high vapour pressure (low boiling point) contaminants may volatilise during storage.

8.2 Sampling Locations

An underground services detector was used to ensure that services including power, water, sewer, stormwater, telephone and gas were avoided.

Sampling locations are shown on the Site Plans, in Appendix H. The sampling locations have been referenced to buildings which it is understood will not be demolished under the current proposal for future redevelopment of the site.

The sampling locations in this testing program were located in the following areas:

- East of Litchfield House. Six borehole locations, (numbers 1B to 6B inclusive) were established with approximately 20 metre spacings on an approximately triangular grid pattern. Borehole locations 1B to 3B inclusive were taken through a bituminised surface, approximately 75 m east from the eastern facing wall of Litchfield House. Borehole locations 4B to 6B inclusive were taken through lawned areas approximately 60 m east from the eastern facing wall of Litchfield House. (See Drawing number 27F358A/10/O in Appendix H). This area was reported as being used for the burial of coke ash and building rubble, and prior to that a market garden existed in the vicinity of borehole locations 1B, 5B and 6B.

- Borehole location 7B was on the lawned area south of the Industrial Therapy Building, approximately 127 m east from the eastern facing wall of Litchfield House. (See Drawing 27F358A/10/O in Appendix H.) This area was reported as being used for the burial of coke ash, and prior to that a market garden existed in this location.

- Borehole location 8B was approximately 41 m south and 70 m east from the south western corner of the old mortuary building. (See Drawing 27F358A/11/O in Appendix H). This area was reported as being used for the burial of coke ash.

- Borehole location 9B was approximately 33 m south and 46 m east from the south eastern corner of the Administration Building, in the lawned area known as Square Acre. (See Drawing 27F358A/12/O in Appendix H). This area was reported as being used for the burial of coke ash.

- Location numbers 10D and 11D where samples were extracted by hand with a dig-stick and hammer, were located approximately 116 m south from the south eastern corner of the Administration Building. (See Drawing 27F358A/12/O in Appendix H).

This area was suspected of being used as a former orchard. Coke ash may also have been used as a fertiliser.

- Location numbers 12D and 13D where samples were also extracted by hand with a dig-stick and hammer, were located in the area known as the Hospital Paddock. Location 12D was in the centre of the paddock and the location 13D was on the western side of the storm water runoff area passing through the field, which was dry on the day of sampling. (See drawing 27F358A/13/O in Appendix H). The Hospital Paddock is a cropping area.

8.3 Sample Depths

Anecdotal evidence had been received relating to landscaping or filling activities in the vicinity of borehole locations B1 to B9 inclusive. In all cases the depth of contamination was unknown. For this reason it was envisaged that boreholes would be dug to a depth of 1 m, the core examined for signs of contamination and if contamination was visually apparent at a depth of 1 m below the surface, further drilling would be carried out to determine the depth of contamination.

Boreholes 1B to 3B inclusive were to be dug to a depth of 1 m after the 50 mm thick layer of bitumen at the surface had been removed.

At each of the locations B1 to B9 inclusive, samples were taken of one or two different soil strata based on visual examination for the presence of contaminants.

The depth of samples taken from locations 10D to 13D inclusive was fully representative of the depth range 0 to 150 mm.

Following inspection of the borehole cores, a total of 16 samples were selected for laboratory analysis, as specified in Appendix I. These samples comprised the following:

- One sample from each of the borehole cores obtained from locations 1B to 9B inclusive, based on visual inspection of the borehole cores for strata containing flecks of what appeared to be coke ash.

- An additional sample was taken from the borehole core at location 7B. 300 mm of soil strata below the strata containing flecks of what appeared to be coke ash was also sampled.

- An additional sample was also taken from the borehole core at the location 9B. 350 mm of soil strata above the soil strata containing flecks of coke ash, was found to contain bitumen and was hence also sampled.

- A composite sample made by combining equal volumes of samples obtained from locations 1B and 6B, then mixing these thoroughly. The samples from 1B and 6B were taken from the strata containing flecks of what appeared to be coke ash.

- A composite sample was made by combining equal volumes of samples obtained from locations 10D and 11D, then mixing these thoroughly.

- A composite sample was made by combining equal volumes of samples obtained from locations 12D and 13D, then mixing these thoroughly.

8.4 Laboratory Used

Australian Laboratory Services
32 Shand Street
Stafford Qld 4053

8.5 Analytes

8.5.1 Polycyclic Aromatic Hydrocarbons (PAH), Selected Heavy Metals and Arsenic

Mr Howard Thiele, the head gardener on the site and Mr Frank Rogers a former gardener on the site, gave anecdotal evidence relating to the locations where filling and landscaping activities had occurred on the site in the past. According to this anecdotal evidence, one of the fill materials used in the past was coke ash which originated from the Boiler House situated on the site.

Coke ash contains high PAH levels and may also contain heavy metals and arsenic. The heavy metals which were selected as analytes in this sampling program were lead, copper and zinc.

Sampling locations 1B to 9B inclusive on the site, were located in areas where filling or landscaping activities using coke ash, were reported to have occurred in the past by the above named. Hence a sample was taken from the strata which appeared to contain coke ash at each of these locations, and was tested for the presence of PAHs, selected heavy metals and arsenic. In all cases, small flecks of what appeared to be ash, within a matrix of soil characterised this strata which was sampled.

Coke ash may have been used as a fertiliser in the past on former market gardening, orchard, or crop growing areas. Hence samples obtained from locations 10D to 13D inclusive were tested for the presence of selected heavy metals and arsenic. A composite sample made up from samples obtained from locations 10D and 11D, in a former orchard area, was also tested for the presence of PAHs.

8.5.2 Organochlorine Pesticides

In the past organochlorine pesticides may have been used on areas used for farming purposes.

Based on aerial photography, areas which appeared to have been used as market gardens or orchards in the past could be identified. Sample locations 10D and 11D were on an area which prior to 1965 appeared to be used as an orchard. Sample locations 12D and 13D were taken from the Hospital Paddock which since the early 1960s has been used for growing cereal crops, and prior to then was most likely used as a market garden. Hence a composite sample from locations 10D and 11D and another composite sample from locations 12D and 13D were tested for organochlorine pesticides.

Based on aerial photography the area in the vicinity of sample locations 1B, 5B and 6B may have been used as an orchard area prior to 1965 and before any filling activity occurred. A composite sample from locations 1B and 6B was taken and tested for organochlorine pesticides.

The area in the vicinity of location 7B was used as a market garden prior to 1959 and before any filling activity had occurred. Hence the 300 mm of strata below the strata containing coke ash was sampled and tested for organochlorine pesticides.

9. Results

Laboratory analytical reports are contained in Appendix K of this report. The analytical results received have been compared to readily available criteria for further investigation and are summarised in Table 1 below.

All the samples tested for polycyclic aromatic hydrocarbons (PAH's) and organochlorine pesticides, returned results which were below the laboratory reporting limits and were also below the concentrations for further investigation.

All the samples tested for selected heavy metals and arsenic returned results which were above the laboratory reporting limits but below the concentrations for further investigation.

TABLE 1
Range of Results Obtained

Analytes	Number of Samples Tested	Range of Actual Results (mg/kg)	Further Investigation Limit (mg/kg)	Source
Polycyclic Aromatic Hydrocarbons (PAH)	11			
Naphthalene		<0.5	5	2
2-Methylnaphthalene		<0.5		
2-Chloronaphthalene		<0.5		
Acenaphthylene		<0.5		
Acenaphthene		<0.5		
Fluorene		<0.5		
Phenanthrene		<0.5	10	2
Anthracene		<0.5	10	2
Fluoranthene		<0.5	10	2
Pyrene		<0.5	10	2
N-2-Fluorenylacetamide		<0.5		
Benz(a)anthracene		<0.5		
Chrysene		<0.5		
Benzo(b) & (k)fluoranthene		<1		
7.12-Dimethylbenz(a)anthracene		<0.5		
Benzo(a)pyrene		<0.5	1	1
3-Methylcholanthrene		<0.5		
Indeno(1.2.3-cd)pyrene		<0.5		
Dibenz(a.h)anthracene		<0.5		
Benzo(g.h.i)perylene		<0.5		
Organochlorine Pesticide (OCP)	4			
alpha-BHC		<0.05	0.5	3
beta- & gamma-BHC		<0.1	0.5	3
delta-BHC		<0.05	0.5	3
Heptachlor		<0.05	0.5	3
Aldrin		<0.05	0.5	3
Heptachlor epoxide		<0.05	0.5	3
Endosulfan 1		<0.05	0.5	3
4.4'-DDE		<0.05	0.5	3
Dieldrin		<0.05	0.2	3
Endrin		<0.05	0.5	3
Endosulfan 2		<0.05	0.5	3
4.4'-DDD		<0.05	0.5	3
Endrin aldehyde		<0.05	0.5	3
Endosulfan sulfate		<0.05	0.5	3
4.4'-DDT		<0.2	0.5	3
Heavy Metals	14			
Copper		7-36	100	1
Lead		8-63	300	1
Zinc		14-124	500	1
Arsenic	14	2-10	100	1

Information Sources:

1. SAHC (1993). *A Practical Guide to the Health Risk Assessment and Management of Contaminated Land in South Australia*, Public & Environmental Health Service, South Australian Health Commission, Adelaide.
2. ANZECC (1992). *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites*, Australian and New Zealand Environment and Conservation Council, National Health and Medical Research Council, Canberra.
3. Dutch B Criteria for Contaminants in Soils (Further Investigation Levels).

10. Discussion of Results

The results received indicated that contaminant levels fall below further investigation limits for the depth ranges sampled, at locations on the site tested.

Coke Ash

In all samples of soil strata containing flecks of what appeared to be coke ash, concentrations of polycyclic aromatic hydrocarbons (PAHs), selected heavy metal and arsenic were below guideline values for further investigation. These samples were generally taken from strata visually assessed to contain what appeared to be traces of coke ash, from each of the borehole cores recovered at locations 1B to 9B and a composite from locations 10D and 11D.

Six of the samples (locations 1B to 6B) were taken in an area east of Litchfield House in an approximately triangular grid pattern with approximately 20 metre spacings between sampling locations. While this was an area where substantial coke ash disposal had been reported, this was not confirmed by chemical analysis.

Similarly no chemical evidence of substantial ash disposal was found in a total of five samples taken from the following locations:

- a single sample from the lawned area south of the Industrial Therapy Building (location 7B);
- a single sample from the lawned area south of the Boiler House (location 8B);
- two samples from different soil strata at a single location in the "Square Acre" south-east of the Administration Building;
- a single composite taken from the suspected former orchard area in the south-east corner of the site.

Pesticides

In the four samples tested for organochlorine pesticides, concentrations were lower than guideline values for further investigation. The four samples included:

- Two composite samples representative of the depth range 0-150 mm from the surface. One sample was made by combining sub-samples from locations 10D and 11D, a former suspected orchard area in the south-eastern corner of the site. The other sample was made by combining sub-samples from locations 12D and 13D, in a cropping area in the Hospital Paddock at the northern end of the site.

- One sample taken from strata underlying fill material, representative of the depth range 0.4-0.7 m a suspected former market garden area in the lawned area south of the Industrial Therapy Building (location 7B).

- A composite sample combined from sub-samples of strata identified as fill at locations 1B and 6B, a former suspected market garden area east of Litchfield House. The sub-sample from location 1B was representative of the depth range 0.2-0.35 m and the sub-sample from location 6B was representative of the depth range 0.3-0.45 m.

Rubble Burial

No evidence of buried rubble was found in six boreholes drilled down to natural soil in locations on an approximately 20 metre triangular grid east of Litchfield House. The fill depth ranged from 0.3 to 0.7 metres.

While rubble was not located, it is probable that rubble is located elsewhere within the large area identified from anecdotal information as being used for the burial of building rubble in the past.

Some brick fragments and bitumen were apparent in the bore core recovered from location 9 in the area known as Square Acre. Bitumen was particularly concentrated at a depth range of 0.45-0.75 m at this location. Burial of building rubble had not been reported in this area.

General

None of the eighteen samples tested revealed evidence of unacceptable contamination. These results are based on a limited preliminary sampling and testing program and will assist with the design of a more comprehensive soil testing program for the site.

11. Trial Backhoe Excavation of Buried Building Rubble

11.1 Methodology

In an area of the site where rubble burial was suspected, backhoe excavation was carried out to determine the depth and physical nature of the buried rubble. Observations were to be made of possible contaminants in the rubble including asbestos, bitumen and metals.

An area chosen for investigation was based on the anecdotal evidence that large pieces of concrete had been buried. The depth of the area excavated was not to exceed 1.5 m due to safety considerations. Details of the area sampled and the sample depth are given below in Sections 11.2 and 11.3 respectively.

The excavated soil and cavity were inspected for signs of contamination and to determine the depth of any buried rubble. Photographs were also taken.

The excavated material was then returned to the cavity and the area was compacted as far as practicable by driving the backhoe over it many times.

The backhoe is shown in photograph 1 contained in Appendix M. A 0.3 metre wide bucket was used.

11.2 Location of Excavation Area

An area of approximately 3 m x 5 m was excavated. This was located approximately 7.2 m south of the fenceline, which separates the Hospital Paddock from the remainder of the site.

Drawing 27F358A/14/O contained in Appendix L shows the location of this area more clearly. An underground services detector was used to ensure that services including power, water, sewer, stormwater, telephone and gas were avoided.

This area was chosen for trial excavation because anecdotal evidence relating to burial activity on the site had been received and also because of the low probability of encountering underground services.

11.3 Depth of Excavation

Soil and building rubble were excavated to a depth of approximately 1.5 m, however a large piece of concrete having a volume of at least 0.2 m^3 was encountered at a depth of 1.2 m.

This piece of concrete could not be broken by the backhoe, however the backhoe continued to dig to one side of the concrete piece in an attempt to ascertain its size. Hence in this way the maximum depth in the excavation area was 1.7 m.

11.4 Anecdotal Evidence

According to Mr Frank Rogers a former gardener on the site, up to approximately 50 trenches running north-south each approximately 3.5 m deep and 1 m wide were dug on land to the north of the former Ward 3 and filled with large concrete pieces. The area over which this activity is thought to have occurred is shown more clearly on drawing 27F306A/03/O in Appendix G.

The location described in Section 11.2 was chosen for trial excavation based on the above anecdotal information. Hence it was decided to excavate across the chosen site in an east-west direction to maximise the probability of encountering the reported building rubble.

11.5 Results of Trial Excavation

The area was excavated to a depth of between 1.2 and 1.7 m. Large pieces of concrete were visible in the excavation soil as well as a small quantity of steel reinforcement rods and old bricks. No bitumen, or materials containing asbestos were observed.

Photographs 1 to 4 contained in Appendix M show examples of the large pieces of concrete in the excavation soil. The backhoe in some cases broke up pieces of concrete before removing them so that the concrete contained in the excavation material, may be smaller in size than that which exists below the surface.

Photograph 3 shows the largest piece of concrete encountered during the trial excavation which the backhoe could not remove. Its volume was approximated as at least 0.2 m^3.

The trial excavation confirmed anecdotal evidence received relating to the burial of large concrete pieces buried in trenches running north-south. By examination of the surface it was apparent that grass appeared to be growing well in distinct rows running north-south. It was found that these areas had been filled with building rubble and covered over with a thin layer of imported topsoil. The rows of greener grass running north-south are shown in photograph 4. It can also be seen from photograph 4, that a large area of very lush grass exists to the west of the excavation area. This may possibly be the location of a large burial pit.

12. Statement of Limitations

The principal purpose of this investigation and report has been to assess the physical characteristics of the site with respect to the presence or absence in the environment of hazardous materials, substances, contaminants or pollutants, as defined in applicable State and Commonwealth environmental legislation. The precise scope of work is detailed in this report, and was agreed with the Department of Environment and Natural Resources, recognising time and budgetary constraints.

RUST PPK Pty Ltd derived the data in this report primarily from visual inspections, examinations of readily - available records, interviews with individuals with knowledge of the site. Whilst to the best of our knowledge the information contained in this report is accurate at the date of issue, subsurface conditions, including contaminant extent and concentrations, can change with time. This should be recognised if the report is used after a protracted delay, such that further investigation of the site may be necessary.

In preparing this report, RUST PPK Pty Ltd has relied upon and presumed accurate certain information provided by the Client or third parties. Unless otherwise stated in the report, RUST PPK Pty Ltd has not attempted to verify the accuracy or completeness of any such information.

There are always some variations in subsurface conditions across a site which cannot be fully defined by investigation. Hence it is unlikely that the specific information presented in this report will represent the extremes of conditions that exist within the site.

RUST PPK Pty Ltd have prepared this report for the Department of Environment and Natural Resources, in accordance with generally accepted consulting practice and the RUST PPK Pty Ltd Terms of Business. No other warranty, express or implied, is made as to the professional advice included in this report. This report has not been prepared for use by parties other than the Department of Environment and Natural Resources. It may not contain sufficient information for purposes of other parties or for other uses.