

31 August 2020

Andrew Boustred  
Home Consortium Property Limited  
PO Box 10  
Double Bay NSW 2028

Dear Andrew,

## Re: Summary of Contaminated Land Condition Proposed Childcare Development, 72-80 Mulgoa Road, Penrith

### 1. Introduction

Senversa Pty Ltd (Senversa) is pleased to present Home Consortium Pty Ltd (Home Consortium) our review of the contaminated land condition for the proposed Childcare Centre Development at the site located at 72-80 Mulgoa Road, Penrith (the site). The site is also identified as Lot 200 in Deposited Plan (DP) 1230338 and Lot 100 in DP1230336. Refer to **Figure 1** for the site location.

#### 1.1 Background

The site is currently zoned B5 – Business Development under the Penrith Local Environmental Plan 2010 (LEP) and is currently in use as a car park for a commercial complex that comprises retail stores. Home Consortium is looking to redevelop a portion of the existing car park for use as a childcare centre and is in the process of submitting a Development Application (DA) to Penrith City Council for the proposed change in land use. We note that the proposed child-care centre is a use that is 'permitted with consent' under the LEP.

A number of environmental reports have been prepared for the site by Geo-Logix which concluded that the site is suitable for use as a commercial/industrial site, subject to a long-term environmental management plan. The National Environment Protection Council (NEPC) '*National Environment Protection (Assessment of Site Contamination) Measure 1999, as Amended 2013*' (NEPM, 2013) states that the 'commercial/industrial land use scenario' is not applicable to a site used by more sensitive groups such as children and the elderly i.e. within child care centres, hospitals and aged care facilities.

Prior to submission of the DA, Home Consortium required a review of existing data be undertaken to assess whether the site is suitable for a more conservative land use, or whether more investigation is required.



## 1.2 Objectives

Home Consortium requested Senversa Pty Ltd (Senversa) prepare a letter report to satisfy the following objectives:

- summarise the historical land use and contamination status the site (based on previous assessments);
- provide an opinion on the suitability of the site for the proposed sensitive use; and
- provide recommendations to confirm site suitability (where required).

## 2. Desktop Review of Existing Reports

The following reports were provided to Senversa by Home Consortium for review:

- *'Phase 1 Environmental Assessment Report, 72 – 82 Mulgoa Road and 45 Regentville Road, Jamisontown NSW'* dated July 2012 by Geo-Logix Pty Ltd (Geo-Logix).
- *'Phase 1 Environmental Assessment Report, 37 – 43 Regentville Road, Jamisontown NSW'* dated July 2012 by Geo-Logix.
- *'Stage 2 Detailed Investigation Report, Proposed Masters Site, 78 - 82 Mulgoa Road and 45 Regentville Road, Jamisontown NSW'* dated December 2013 by Geo-Logix.
- *'Stage 2 Detailed Investigation Report, Proposed Masters Site, 37 – 43 Regentville Road, Jamisontown NSW'* dated December 2013 by Geo-Logix.
- *'Detailed Site Investigation Report, 72 – 82 Mulgoa Road and 29 – 35 Regentville Road, Jamisontown, NSW 2750'* dated May 2014 by Geo-Logix.
- *'Remediation and Validation Report, Masters Penrith, 72-82 Mulgoa Road and 29-35 Regentville Road, Jamisontown, NSW 2750'* dated March 2015 by Geo-Logix.
- *'Environmental Management Plan, 72-82 Mulgoa Road and 29-35 Regentville Road, Jamisontown, NSW 2750'* dated March 2015 by Geo-Logix.

### 2.1 Scope of Completed Investigation and Remediation Works

The above assessment reports were completed as part of due diligence work for the proposed purchase and development of the site into the current commercial complex associated with the car park (originally occupied by a Masters Home Improvement store and now by various retail shops).

Work completed by Geo-Logix as part of the above reports included:

- A site history review to identify past uses of the site, involving review of historical aerial photographs, site photographs, NSW EPA records, WorkCover dangerous goods records and Certificates of Title.
- A site walkover to identify the presence of visible potentially source of contamination.
- A preliminary soil investigation program, involving the drilling, collection and analysis of soil samples from six boreholes across the site.
- A secondary soil investigation program, involving the excavation, collection and analysis of soil samples from ten test pits across the site.
- A groundwater investigation program, involving installation, collection and analysis of groundwater samples from two wells at the site (one well appears to be located at the north west corner boundary).



Based on the findings of the above works, a remedial action plan (RAP) was prepared by Geo-Logix (note that the RAP was not provided for review). Remedial works were undertaken at the site and summarised in a remediation and validation report (RVR) (Geo-Logix, 2015). Remedial works included, *inter alia*:

- Removal of fuel infrastructure (a number of above ground storage tanks (ASTs) and underground ground storage tanks (USTs) and associated impacted soils, above ground oil/water separators), bioremediation and/or excavation and off-site disposal of contaminated soils.
- Removal of mechanical service pits, sumps and drains.
- Removal of asphalt bunds and redundant buildings on site.
- Removal of surficial asbestos fragments.
- Encapsulation of lead and asbestos impacted fill material beneath a marker layer of white geofabric and capping layer (comprising 200 mm of road base substrate and 30 mm of asphalt).

Following remedial works, the site was validated by Geo-Logix (Geo-Logix 2015) as per their RAP. The conclusion of the RVR was that '*Remediation of the site has been completed as per Geo-Logix RAP. The results of validation sampling comply with RAC and all decisions rules have been met.*

*Asbestos and lead contaminated soils are contained onsite in a well-defined containment cell. An Environmental Management Plan has been prepared for site users and provides guidance in the event the containment cell is required to be accessed. The condition has been notified to the consent authority and is recorded on the properties 88b instrument and Section 149 Planning Certificate.*

*Geo-Logix concludes the site is suitable for the proposed Masters commercial industrial land use.'*

### 3. Key Review Findings

The table below summarises the key findings from the previous assessment works undertaken by Geo-Logix.

Key Findings	Comment
<b>Site History</b>	Prior to the 1960s the site was possibly part of a former brickworks and then orchard. Following levelling in the 1970s, the site was used as part of a trucking depot and then part of a fuel depot in the 1980s (both of which extended to the west and north of the site). ASTs and USTs may have been located within or to the north and north west of the site. From the 1990s until the recent commercial development, the southern and central portion of site was part of the Sinclair Ford Car Dealership and occupied by car parking.
<b>Potential Sources of Contamination</b>	The potential sources of contamination that were identified and assessed from the site history review were as follows: <ul style="list-style-type: none"><li>• Possible historical use as a former brickworks and orchard.</li><li>• Historically imported fill.</li><li>• Hazardous building materials from former buildings.</li><li>• An AST and potential UST located in the northwest of the site associated with the former fuel depot.</li><li>• Off-site fuel infrastructure also associated with the former fuel depot and bus depot to the north and north west of the site.</li></ul>
<b>Geology</b>	Site investigation showed that the site was underlain by fill to depths of between 0.5 m below ground level (bgl) and at least 2 mbgl. Fill comprised sand, silt, clay and gravel with inclusions of tile, ceramic, wire, brick, glass, wood, plastic and rubber. Asbestos containing material (ACM) was also observed within the fill in most locations. Natural soil below the fill comprised clay.



Key Findings	Comment
<b>Hydrogeology</b>	Groundwater investigations encountered groundwater at the site between depths of 8.4 mbgl and 8.7 mbgl and considered likely to flow towards the west/north west to Peach Tree Creek, a tributary of Nepean River.
<b>Identified Soil and Groundwater Contamination (pre-remediation)</b>	<p>Soil: asbestos impacts were identified within the fill across the site. Isolated lead impacts were also identified adjacent to the west of the site. Volatile petroleum hydrocarbons were below detection in soil samples at the site.</p> <p>Groundwater: metals were detected within the groundwater; however, were considered likely to be associated with background conditions. Petroleum hydrocarbon impacts from the former fuel depot were not identified in the groundwater at the site, concentrations of total recoverable hydrocarbons (TRH) and benzene, toluene, ethylbenzene and xylenes (BTEX) were all below relevant groundwater guidelines (NEPM GILs, sourced from the Australian Drinking Water Guidelines (NHRMC 2018) and ANZG (2020), and HSLs) .</p> <p>Other volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs) were below detection in all groundwater samples analysed.</p>
<b>Completed Remediation and Validation Works</b>	<p>The reports stated that the following works were undertaken.</p> <p>Existing and former underground fuel infrastructure identified during investigation and remediation were located off-site to the north, west and south-west. All above and below ground infrastructure and impacted soil were disposed off-site and the excavations validated.</p> <p>Removal of mechanical service pits, sumps and drains, asphalt bunds and redundant buildings on site, and surficial asbestos fragments had been undertaken.</p> <p>Asbestos and lead impacted fill approximately 3.5 m thick was capped and contained within a contaminant cell that extends across approximately 7500 m<sup>2</sup> of the site (refer to <b>Figure 2</b>). The top of the impacted fill material is reported to be approximately 0.3-0.5 mbgl and is covered by a white geotextile marker layer. Capping included the car park subgrade material (approximately 200 mm thick) following the final car park finish layer (30 mm of asphalt) installed above the marker layer. It is understood that a stormwater pipe was installed above the encapsulated fill within the capping layer. The above ground fuel storage was removed from site during remediation.</p> <p>The southern portion of the proposed childcare centre extends over the encapsulated fill material (see <b>Figure 3</b>).</p> <p>The site was validated post remediation through collection of soil samples and comparison of results to site remediation criteria presented in the RAP. Petroleum impacts (ethylbenzene, xylenes) were detected in a number of groundwater samples at concentrations above the freshwater GILs, and detectable concentrations of TRH (albeit below criteria) were also detected. Concentrations were consistent or lower than results from previous environmental assessments. Previous assessments concluded no risk to the environment from petroleum impacted groundwater and the risk was considered low.</p>
<b>On-site Contamination Remaining</b>	Fill containing elevated lead and asbestos containing material was retained on-site in a capped containment cell. This source of contamination could potentially pose a risk to on-site receptors should the capping be breached. It is considered that implementation of the long-term environmental management plan (LTEMP) would ensure this source-receptor pathway is incomplete.



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**Key Findings****Comment**

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**Ongoing Management**

The site is currently managed under a LTEMP. The LTEMP has been notified to Council and is included on the site 88b instrument and Section 10.7 Planning Certificate. The EMP includes procedures for the following:

- Management during construction and operation of the site including requirements for induction of all contractors, availability of EMP to all operators, tenants and contractors, and future reviewing of the EMP if asbestos impacted soil is disturbed or the plan is no longer adequate.
  - Management of intrusive works including requirements for inductions, contractor licencing, personal protective equipment, and excavated soil management.
  - Management of accidental breach of impacted soil including exclusion zone and engagement of a qualified environmental consultant to provide on assessment/remediation.
- 

## 4. Conclusion

Based on the desktop review, and referring to the objectives of this report, Senversa has drawn the following key findings relating to the site:

- Remediation at the site, prior to development of the site for commercial/industrial use is reported to have comprised removal of redundant fuel infrastructure (above and below ground), removal of mechanical service pits and bunds, removal of surficial asbestos fragments, and the encapsulation of asbestos and lead impacted fill beneath a cap. The capping layer comprised a marker layer of geotextile, approximately 200 mm of subgrade material, and 30 mm of asphalt.
- The remediation was validated as being considered suitable for a commercial/industrial land use subject to a long-term environmental management plan (LTEMP).
- The LTEMP is noted on the Section 10.7 Planning Certificate for the site.

Senversa has reviewed the available information for the site and, noting the proposed change in land use to a more sensitive land use, makes the following concluding statements with regard to the site suitability. Recommendations for further work, either before or as part of development, based on our findings are also provided for consideration.

### Encapsulated fill area:

- Provided the capping layer is constructed as report and is not breached, there does not appear to be a complete source-pathway-receptor linkage with regard to the encapsulated material. The risk to users of the childcare centre is considered low, however;
  - it is noted that the capping layer is less than 250 mm thick, which is unlikely to be sufficient to protect intrusive maintenance workers during development works, and ongoing/future service maintenance works. Consideration should be given to this during development through preparation and implementation of an appropriate construction environmental management plan and appropriate workplace health and safety measures.

### Hydrocarbons in soil/groundwater:

- The site was previously validated to levels appropriate for commercial/industrial land use presented in NEPM 2013, namely land use scenario '*HIL D - commercial/ industrial*' which is protective of adult workers in typical commercial or light industrial properties. The proposed land use of a childcare centre would fall under the land-use scenario '*HIL A - low-density residential land-use scenario with a sizeable garden*' which is the most conservative land use in NEPM 2013. The site has not been validated for the proposed use and further assessment is recommended.



- Groundwater to the south of the proposed childcare centre contained ethylbenzene, xylenes, and naphthalene at concentrations exceeding ecological criteria (NEPM GILs) at the time of validation. In addition to this, concentrations of TRH in groundwater were detected (albeit below criteria). Management limits in soil were exceeded in a number of locations, therefore it is possible that some residual hydrocarbon impacts remain in the soil and groundwater. Senversa notes that a number of years have elapsed since the validation work and natural attenuation is likely to have occurred, nevertheless:
  - it is recommended that a soil vapour assessment be undertaken to assess the risk to proposed site users, prior to development being undertaken; and
  - a construction environmental management plan is prepared for the site, the document should include an unexpected finds protocol which should detail the controls required should stained, or odorous soil be encountered.

In undertaking the review it is noted that Senversa has not:

- conducted a detailed review of data or re-interpreted data and information in the documents. All data, information and technical interpretations have been accepted *prima facie*; and/or
- considered aspects other than technical aspects of contamination assessment; or undertaken our own site investigations.

## 5. Closing

We trust this meets your current requirements. Should you have any queries or require further information, please do not hesitate to contact Melissa at [Melissa.porter@senversa.com.au](mailto:Melissa.porter@senversa.com.au) or on 0402 537 759.

Yours sincerely,

On behalf of **Senversa Pty Ltd**

**Naomi Lukeman**  
Senior Associate



**Melissa Porter**  
Senior Principal



ES/NL/MP

Enclosures: Figure 1: Site Location  
Figure 2: Proposed Childcare Centre  
Figure 3: Containment Cell Footprint

**Technical Limitations and Uncertainty** – This document was prepared to meet the objectives outlined in the Senversa proposal for the works. Additional investigation works and information will improve the confidence and may yield different results, due to a range of factors such as the variable or heterogeneous nature of environmental contaminants in the subsurface. Extreme care should be taken, and no warranty is provided, in the application of any costs or contingent liabilities derived using the data or conclusions within this report.

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## **Figures**

**Figure 1: Site Location**

**Figure 2: Proposed Childcare Centre Location**

**Figure 3: Containment Cell Footprint**



Path: S:\01\_Jobs\1\_NSW\_jobs\18159\_HOME\_PENRITH\_PSI\MXD\18159\_002\_F001\_Site Location.mxd

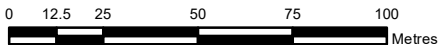
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Address: Level 5, 201 Kent Street,  
Sydney NSW 2000  
Phone: (02) 9994 8016  
Website: www.senversa.com.au

**Legend**  
 Site Boundary

Notes:  
Aerial imagery sourced from Nearmap Pty Ltd

Designed:	N. Lukeman	Date:	28/08/2020
Drawn:	M. Byrne	Revision:	0
Checked:	.	Scale:	1:2,000 (A3)
File:	S18159_002_F001_Site Location		
			
Datum GDA 1994, Projection MGA Zone 56			

<b>Figure No:</b>	<b>1</b>
<b>Title:</b>	<b>Site Location</b>
Project:	Due Diligence Report
Location:	72 Mulgoa Road, Penrith
Client:	Home Consortium Pty Ltd





Path: S:\01\_Jobs\1\_NSW\_jobs\18159\_HOME\_PENRITH\_PSI\MXD\S11\_Working\MXD\S18159\_002\_F002\_Proposed Childcare Location.mxd

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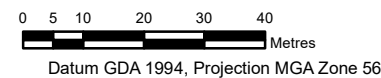
Address: Level 5, 201 Kent Street,  
Sydney NSW 2000  
Phone: (02) 9994 8016  
Website: www.sensversa.com.au

**Legend**

- Proposed Childcare Footprint
- Site Boundary

Notes:  
Aerial imagery sourced from Nearmap Pty Ltd  
Proposed Childcare Location sourced from Drawing  
TF-001 - Cover Sheet, Rev D, Five Canons Architecture (2020)

Designed:	N. Lukeman	Date:	28/08/2020
Drawn:	M. Byrne	Revision:	0
Checked:	.	Scale:	1:1,250 (A3)
File:	S18159_002_F002_Proposed Childcare Location		



<b>Figure No:</b>	<b>2</b>
<b>Title:</b>	<b>Proposed Childcare Centre Location</b>
Project:	Due Diligence Report
Location:	72 Mulgoa Road, Penrith
Client:	Home Consortium Pty Ltd



Path: S:\01\_Jobs\1\_NSW\_jobs\1\_HOME\_PENRITH\_PSI\MXD\S11\_Working\MXD\S11\_18159\_002\_F003\_Containment Cell Location.mxd

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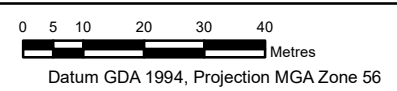
Address: Level 5, 201 Kent Street,  
Sydney NSW 2000  
Phone: (02) 9994 8016  
Website: www.senversa.com.au

**Legend**

- Site Boundary
- Encapsulated Contaminated Fill

Notes:  
Aerial imagery sourced from Neamap Pty Ltd  
Containment Cell extent sourced from Figure 2 - Encapsulated Contaminated Fill, Project 1401076, Geo Logix

Designed:	N. Lukeman	Date:	28/08/2020
Drawn:	M. Byrne	Revision:	0
Checked:	.	Scale:	1:1,250 (A3)
File:	S18159_002_F003_Containment Cell Location		



<b>Figure No:</b>	<b>3</b>
<b>Title:</b>	<b>Containment Cell Location</b>
Project:	Due Diligence Report
Location:	72 Mulgoa Road, Penrith
Client:	Home Consortium Pty Ltd