Ezzy Architects

Preliminary Site Investigation: Lot 11 DP1087962, 22-23 Lambridge Place Penrith, NSW

P1706245JR01V01 November 2017



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1 Overview

1.1 Introduction

This report, prepared by Martens and Associates (MA), documents a preliminary site contamination investigation (PSI) to support a development application for extension of the existing buildings 24-27 Lambridge Place, onto 22-23 Lambridge Place, Penrith, NSW (Lot 11 DP1087962, 'the site').

1.2 Objectives

Investigation objectives include:

- Identification of historic and current potentially contaminating site activities.
- Evaluation of areas of environmental concern (AEC) and associated contaminants of potential concern (COPC) within investigation area.
- Assess identified AECs and associated COPCs.
- o Provide comment on suitability of investigation area for future development use, and where required, provide recommendations for additional investigations and/or remediation where necessary.

1.3 Project Scope

Scope of works includes:

- Walkover inspection to review current land use, potential contaminating activities and neighbouring land uses.
- Site history review using historical aerial photographs and Council records.
- Review NSW EPA notices under the Contaminated Land Management Act (1997).
- Preparation of a report in general accordance with the relevant sections of NSW OEH (2011) and ASC NEPM (1999, amended 2013) and DEC (2006).



1.4 Abbreviations

ACM - Asbestos containing material

AEC - Area of environmental concern

ASC NEPM – Assessment of Site Contamination - National Environmental Protection Measure (1999 amended 2013)

BA – Building application

BTEXN - Benzene, toluene, ethyl benzene, xylene, naphthalene

COPC - Contaminants of potential concern

DA – Development application

DEC – NSW Department of Environment and Conservation

DECC - Department of Environment and Climate Change

DP - Deposited plan

DSI - Detailed site investigation

EPA – NSW Environmental Protection Authority

HM - Heavy metals

LGA – Local government area

MA – Martens & Associates Pty Ltd

mAHD – Metres, Australian Height Datum

mBGL - Metres below ground level

OCP – Organochloride pesticides

OEH - NSW Office of Environment and Heritage

OPP - Organophosphate pesticides

PACM – Potential asbestos containing material

PAH – Polycyclic aromatic hydrocarbons



PCC - Penrith City Council

PSI – Preliminary site investigation

SAC – Site acceptance criteria

TRH – Total recoverable hydrocarbons



2 Site Description

2.1 Site Location and Existing Land Use

Site information is summarised in Table 1, and site location and general surrounds shown in Attachment A.

Table 1: Site background information.

Item	Description / Detail
Site address, lot/DP, and approximate area ¹	22-23 Lambridge Place, Penrith, NSW. Lot 11 DP1087962. 6231 m ²
Local Government Area (LGA)	Penrith City Council (PCC)
Current land use	22-23 Lambridge currently vacant used for storing/parking vehicles including trucks, cars and trailers. Neighbouring property (proposing extension onto the site) is commercial cold storage facility at 24-27 Lambridge PI, Lot 12 DP1087962. Area currently zoned IN1 - General Industrial ¹ .
Proposed land use	Proposed extension of neighbouring development onto site.
Site description	Large commercial cold storage facility on 24-27 Lambridge Place operated by company 'Food Boss'. Block has concrete carpark on the eastern side of the site. 22-23 Lambridge Place is a vacant block with gravel covering used for storage/ parking of light and heavy vehicles and other goods.
Surrounding land uses	The site is located in an industrial zone and is classified General Industrial (IN1). Adjacent land use consists of mainly light industrial. Glass manufacturing and a health and fitness club is located in the vicinity.
Topography	Generally flat topography with westerly aspect <1%
Expected geology	The Penrith 1:100,000 Geological Sheet 9030 (NSW Dept. of Mineral Resources, 1991) identifies the site as being underlain by Quaternary Cranebrook Formation with expected gravel, sand, silt and clay. The NSW Environment and Heritage eSPADE website identifies the site as having soils of the Luddenham variety consisting of shallow (<100 cm) dark podzolic soils or massive earthy clays on crests; moderately deep (70–150 cm) red podzolic soils on upper slopes; moderately deep (<150 cm) yellow podzolic soils and prairie soils on lower slopes and drainage lines.
Environmental Receptors	The investigation site drains via council stormwater network to a network of ponds to the north.
Sensitive receptors	Future site workers and visitors. Site workers during future construction works. Surrounding site occupants.

<u>Notes</u>



¹ NSW Planning Portal.

2.2 Hydrogeology

Review of NSW Department of Primary Industries Water database indicated active groundwater bores within 500 m of the site, listed below are the closest monitoring bores (Table 2). The Groundwater bore locations are shown in Figure 2 (Attachment B).

Table 2: Available hydrogeological information

Groundwater Bore Identification	Distance / Orientation From Site	Depth To Groundwater (mBGL)	Intended Use	Water Bearing Zone Substrate
GW107897	300m south	7.00	Monitoring Bore	Gravel
GW107898	400m southwest	7.00	Monitoring Bore	Gravel

Should further information on permanent site groundwater levels be required, additional investigation would need to be carried out (i.e. installation of groundwater monitoring bores).



3 Site Background Assessment

3.1 Historical Site Records Review

A search of PCC records showed no development application or building plans for the site.

3.2 NSW EPA Records

One site nearby was identified under the Contaminated Land Management Act (1997) or the Environmentally Hazardous Chemicals Act (1985). Three current and three former notices were given to Crane Enfield Metals on Castlereagh Road, Penrith approximately 450m south to south west of the site. An additional eight sites (Table 3) are listed on the register, or identified on the list of NSW contaminated sites notified to the EPA. All sites state regulation under CLM not required with the exception of Jet 60 dry cleaners which is under assessment.

Table 3: EPA identified contaminated sites in Penrith, NSW

Suburb	Address	Site Name	Distance/ Orientation from Site
Penrith	153 Coreen Ave	Caltex service station	1.2km South West
Penrith	174 Coreen Ave	Lowes Petroleum service station	1.3km South
Penrith	2101 Castlereagh Rd	Mirvac industrial site	360m South West
Penrith	212-222 Andrews Rd	7-Eleven service station	420m North West
Penrith	30 Henry St	7-Eleven service station	2.4 km south East
Penrith	Cnr Castlereagh Rd and Lugard St	Caltex service station	520m South West
Penrith	Cnr Coreen Ave and Castlereagh Rd	BP Express service station	1.3km South West
Penrith	Shop 3 134-138 Henry St	Jet 60 Dry Cleaners	2.1km South

3.3 Historical Aerial Photograph Review

Historical aerial photographs taken of the site during 1970, 1984, 1991, 2002, 2007 and 2017 were reviewed to investigate historic site land uses (Table 4). Copies of aerial photographs are provided in Attachment D.



Table 4: Historic aerial photograph observations 1970 – current.

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Year	Lambridge Place, Penrith (Lot 11 DP1087962)	Surrounding Land Use		
1970	Site is undeveloped agricultural land. Small drainage depression transects the south eastern portion of the site.	To the south, west and north are agricultural and market gardens or rural residential dwellings. To the east of the site is a large glass manufacturing factory. Several large industrial/agricultural buildings occupy blocks to the west of the site.		
1984	Little change since 1970 photo.	Adjacent blocks to the west and south remain as per 1970 photo. Factory directly to the east has increased in size and has several new buildings located on the block. Block directly to the north and several to the west has been cleared to make way for new industrial development.		
1991	Little change since 1984 photo.	Large Industrial buildings constructed on adjacent blocks to the north. Expansion of industrial development in the area.		
2002	Little change since 1991 photo with exception of increase in vegetation in western portion of site.	Little change from 1991 photo. Slight change to configuration of factory to the east.		
2007 (Google Earth Maps)	Site access via Lambridge Place. Change in groundcover on site, likely earthworks taken place. Storage containers, trailers, stockpiles and pallets stored on western portion of block.	Lambridge Place constructed. Additional light industrial complex to the south and new cold storage facility to the west. Further increase in commercial development at both sides of Lambridge Place.		
2017 (Nearmap)	Gravel (roadbase) covering majority of site. Numerous truck trailers and vehicles parked / stored around perimeter of site.	Increase in development along Lambridge Place with commercial developments and aquatic centre. Further increase in commercial development to the south and southwest of the site.		



3.4 Walkover Site Inspection

Results of site walkover inspection on 17 September, 2017 are summarised in Table 5.

Table 5: Summary of site walkover.

Lot ID	Lot Infrastructure	Walkover Summary
Lot 11, DP1087 962	Car park/ trailer storage a sr n e sk	The site is relatively flat with very mild undulations. Groundcover consisting primarily of dirt/gravel with some concrete slabs. A fill embankment/mound along the eastern boundary is covered in grass and small trees. Stacks of plastic and wood pallets along northern boundary. Steel industrial bins filled with empty steel drums and assorted waste including sheets of plastic, wood and steel, metal pipes, star pickets, empty plastic bottles, burnt wood, polystyrene, small crates of rubbish and tyres.
		Southern portion of site is used for car parking with approximately 12 cars parked on day of inspection. Next to building to the south east is a concrete slab which has multiple large (1m³) plastic containers (labelled diesel oil) stacked on pallets with hoses attached. It appears this area is used for washing down vehicles and trailers.
		To the west and north of the site around the perimeter are parking for refrigerated truck trailers.
		Wooden pallets, machinery and metal drums with unknown contents at numerous locations across the site.



4 Potential for Contamination

4.1 Areas of Environmental Concern/Contaminants of Potential Concern

Our assessment of site AECs and COPCs (Table 6) for the investigation area is made on the basis of available site history, aerial photograph interpretation and site walkover. A map showing locations of identified AECs is provided in Attachment C.

Table 6: Areas of environmental concern and contaminants of potential concern within the investigation area.

AEC 1	Potential for Contamination	COPC	Contamination Likelihood
AEC A – Storage of vehicles, truck trailers and batteries	Fuel, oil or battery acid containing lead from vehicles/ trailers parked and washed on site may have contaminated soil.	HM, TRH, PAH and BTEXN	Low - medium
AEC B- Containers of unknown content	Potentially contaminating chemicals may have spilled or leaked onto underlying soil.	HM, TRH, BTEXN, PAH and OCP/OPP	Medium
AEC C – Stockpiles	Contaminants from unknown contents of stockpiles (observed in 2007 aerial photo) and general refuse may have spilled or leaked onto underlying soil.	HM, TRH, BTEXN, PAH, OCP/OPP and asbestos	Low - medium
AEC D – Site Filling	Application of fill of unknown origin within previous drainage depression.	TRH, BTEXN, PAH, HM, OCP/OPP and asbestos	Medium

<u>Notes</u>

4.2 Sensitive Receptors and Exposure Pathways

Table 7 provides a summary of identified sensitive receptors and potential exposure pathways connecting receptors to identified AECs and COPCs outlined in Table 6.



¹ Locations identified on AEC map in Attachment C.

Table 7: Summary of receptors and potential pathways.

Receptor	Pathway
Human Receptors:	
 Future site workers and visitors. 	o Dermal contact.
 Site workers during future construction works. 	 Oral ingestion of potentially contaminated soil.
 Surrounding site workers and visitors. 	
Environmental Receptors	
 Mapped waterways 	Migration of contaminated runoff.



5 Conclusions and Recommendations

5.1 Conclusions

Results of the site history review indicate that the site may have been used for agricultural/grazing use from prior to 1970 until at least 2002. Sometime after 2002 the site commenced use similar to the current landuse. The following potential contamination sources have been identified:

- Localised fill importation may have introduced site contaminants.
- Stockpiles, including soil, drums and containers of unknown content, may have introduced heavy metals, hydrocarbons, pesticides or asbestos to the site soils.
- Storage and washing of vehicles, trailers and mechanical equipment may have introduced contaminants to the soil such as heavy metals and hydrocarbons.

Overall, the site is considered to have a risk of contamination and poses a potential risk of harm to human health and environment under proposed development conditions. Assessment of the identified AEC should be undertaken prior to any future development and may be made a condition of development consent. We note that the AEC and COPC identified in Table 7 may not be the exhaustive list of all AEC and COPC on the site.



5.2 Recommendations

Prior to the proposed development, assessment of the AECs and COPCs as noted in this PSI should be undertaken.

To address potential identified AECs and COPCs, a detailed site investigation (DSI) including intrusive soil sampling and testing is recommended and may be made a condition of development consent.

The DSI plan is to be developed in accordance with NSW EPA (1995) Sampling Design Guidelines and a risk based assessment. Assessment shall address each of the identified AECs and associated COPC (Table 6). Results of the site testing shall be assessed against site acceptance criteria (SAC) developed with reference to ASC NEPM (1999, amended 2013).

Provided the above recommendations are adhered to, we consider that the site shall be able to be made suitable for the proposed development.

Where material is excavated for off site disposal, it is to be classified in accordance with NSW EPA (2014).



6 Limitations Statement

The preliminary site investigation was undertaken in line with current industry standards.

It is important, however, to note that no land contamination study can be considered to be a complete and exhaustive characterisation of a site nor can it be guaranteed that any assessment shall identify and characterise all areas of potential contamination or all past potentially contaminating land-uses. This is particularly the case on sites where full access is not possible due to the presence of pavement material and where additional assessment is identified as being required. Therefore, this report should not be read as a guarantee that no contamination shall be found on the site. Should material be exposed in future which appears to be contaminated or inconsistent with natural site soils, additional testing may be required to determine the implications for the site.

Martens & Associates Pty Ltd has undertaken this assessment for the purposes of the current development proposal. No reliance on this report should be made for any other investigation or proposal. Martens & Associates accepts no responsibility, and provides no guarantee regarding the characteristics of areas of the site not specifically studied in this investigation.



7 References

ASC NEPM (1999, amended 2013) National Environmental Protection Measure, 1999 (site contamination measure).

Google Maps (2007).

Nearmap – Aerial photographs (2017).

- NSW DEC (2006) 2nd Ed. Contaminated Sites: Guidelines for the NSW Site Auditor Scheme.
- NSW Department of Environment & Heritage (eSPADE, NSW soil and land information), www.environment.nsw.gov.au.
- NSW Department of Mineral Resources, (1983) Penrith 1:100,000 Geological Sheet 9030.
- NSW DPI Water groundwater database, accessed October 3, 2017, http://allwaterdata.water.nsw.gov.au/water.stm.
- NSW EPA (1995) Sampling Design Guidelines.
- NSW Land and Property Information (LPI) Aerial photographs (1970, 1984, 1991).
- NSW OEH (2011) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites, 2nd Edition.
- NSW SIX Spatial Information Exchange Land & Property Information Aerial photograph (2017). https://six.nsw.gov.au/wps/portal/

SEPP 55 Remediation of Land.

Penrith City Council (2017) DA/BA/CC records.

Penrith City Council (2014) Development Control Plan (DCP).

Penrith City Council (2010) Local Environmental Plan (LEP).



8 Attachment A – Site Plan







Martens & Associates Pty	Ltd ABN 85 070 240 890	Environment Water Wastewater Geotechnical C	Civil Management
Drawn:	MV		Drawing No:
Approved:	GT	Site Location 22-23 Lambridge Place, NSW	FIGURE 1
Date:	16.10.2017	Source: Nearmap, 2017 (top) and NSW SIX Viewer, 2017 (bottom)	
Scale:	Not to Scale	NSW SIX Viewer, 2017 (bottom)	Job No: P1706245

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9 Attachment B – Groundwater bore locations



Map Info



Martens & Associates Pty Ltd ABN 85 070 240 890		Environment Water Wastewater Geotechnical Civil Management		
Drawn:	MV		Drawing No:	
Approved:	Gĭ	Groundwater Bore Locations	Figure 2	
Date:	12.10.2017	Groundwater Bore Locations 22-23 Lambridge Place, Penrith, NSW Source: NSW DPI Water Groundwater Database		
Scale:	Not to Scale	3001Ce. NSW DIT Waler Globilawaler Dalabase	Job No: P1706245	

Document Set ID: 7948520

10 Attachment C- Areas of concern





11 Attachment D- Historical Aerial Photographs







 Martens & Associates Pty Ltd
 ABN 85 070 240 890

 Drawn:
 MV

 Approved:
 GT

 Date:
 10.10.2017

 Document Set №:7948520
 Not to Scale

Aerial photo 1970 22-23 Lambridge Place, Penrith, NSW Source: NSW LPI

Environment | Water | Wastewater | Geotechnical | Civil | Management

Drawing No:

Figure 4

Job No: P1706245





 Martens & Associates Pty Ltd
 ABN 85 070 240 890

 Drawn:
 MV

 Approved:
 GT

 Date:
 10.10.2017

 Document Set 10:07948520
 Not to Scale

Aerial photo 1984 22-23 Lambridge Place, Penrith, NSW Source: NSW LPI

Environment | Water | Wastewater | Geotechnical | Civil | Management

Drawing No:

Figure 5

Job No: P1706245





 Martens & Associates Pty Ltd
 ABN 85 070 240 890

 Drawn:
 MV

 Approved:
 GT

 Date:
 10.10.2017

 Document Set №:7948520
 Not to Scale

Aerial photo 1991 22-23 Lambridge Place, Penrith, NSW Source: NSW LPI Drawina No: Figure 6

Job No: P1706245



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	Drawn:		MV		
	Approved:		GT		
	Date:		10.10.2017		
Document Se	D:7948520		Not to Scale		

Aerial photo 2002 22-23 Lambridge Place, Penrith, NSW Source: Google Earth

Environment | Water | Wastewater | Geotechnical | Civil | Management

Drawina No: Figure 7

Job No: P1706245





Preliminary Site Investigation:

Environment | Water | Wastewater | Geotechnical | Civil | Management

ABN 85 070 240 890 Martens & Associates Pty Ltd MV Drawn: GT Approved: 10.10.2017 Date: Not to Scale

Aerial photo 2007 22-23 Lambridge Place, Penrith, NSW Source: Google Earth

Drawing No: Figure 8

Job No: P1706245



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	Drawn:	MV	
	Approved:	GT	
	Date:	10.10.2017	
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Aerial photo 2017 22-23 Lambridge Place, Penrith, NSW Source: Nearmap Drawing No: Figure 9

Job No: P1706245

12 Attachment E – Penrith City Council Correspondence



Daniel O'Sullivan

Subject:

FW: Information Request for 22-23 Lambridge Place Penrith

From: Rhian Greenup [mailto:rhian.greenup@penrith.city]

Sent: Friday, 27 October 2017 11:00 AM

To: Matthew Vaughan < mvaughan@martens.com.au>

Subject: Information Request for 22-23 Lambridge Place Penrith

Good morning Matthew

In response to your Information request regarding the above mentioned property please see below summary:

There was a prelodgement made for this property however no Development Application or Building Application was ever lodged with Council. We have no other records relating to your request for this property.

Kind Regards

Rhian Greenup

Administration Officer

T +612 4732 7991 | F +612 4732 7958 | PO Box 60, PENRITH NSW 2751 www.visitpenrith.com.au www.penrithcity.nsw.gov.au





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