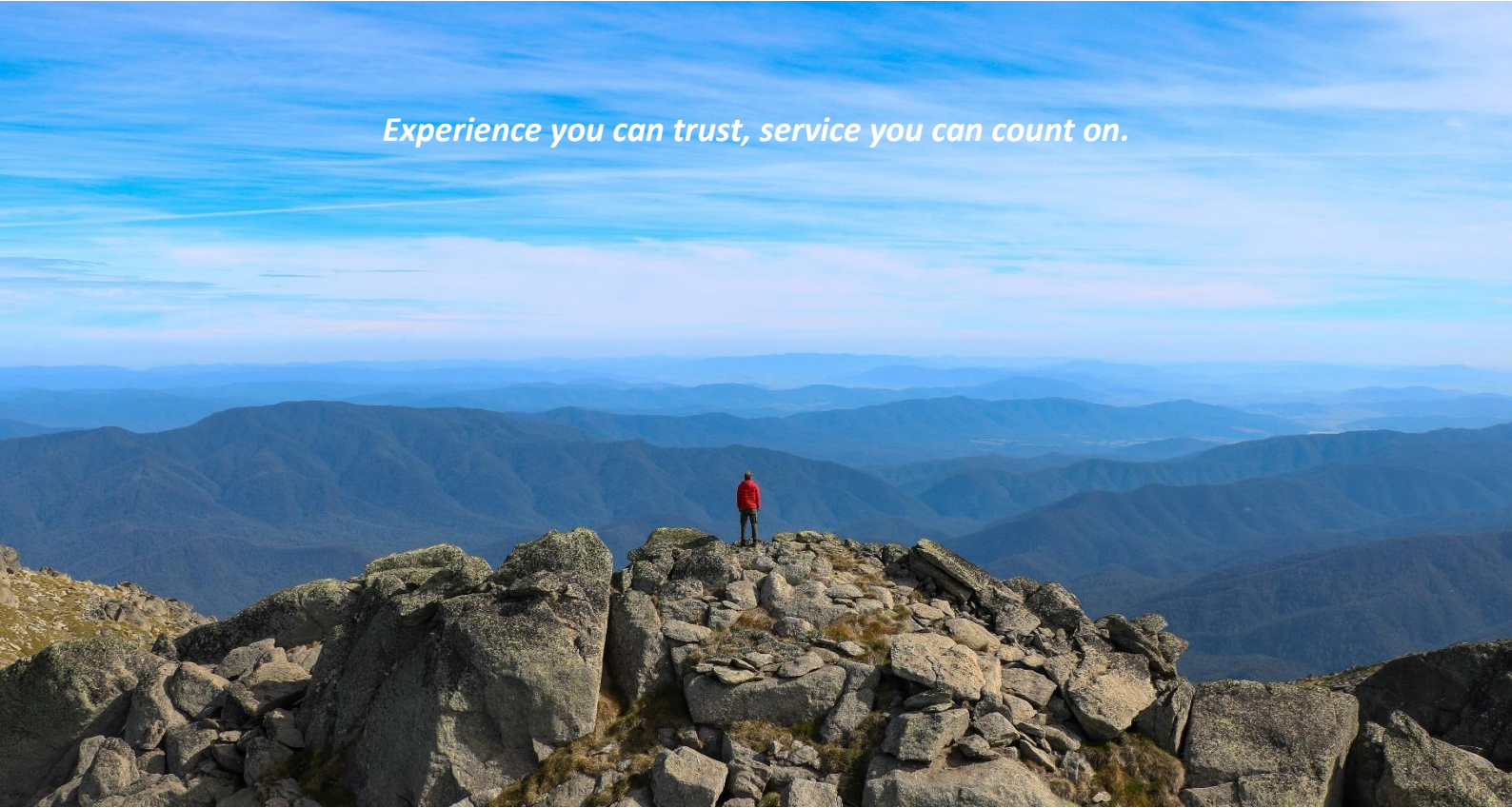


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## Preliminary Site Investigation

**40-42 Mamre Road, St Marys NSW 2760**

Prepared For:	V Homes Developments Pty Ltd
Reference:	21-1155
Date:	07 May 2021

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Con Kariotoglou Managing Director <i>BSc, Cert IV WHS, AFMIML, MEIANZ, MALGA</i> <i>SafeWork NSW Approved Asbestos Assessor, License No. LAA001006</i>	Con Kariotoglou Managing Director <i>BSc, Cert IV WHS, AFMIML, MEIANZ, MALGA</i> <i>SafeWork NSW Approved Asbestos Assessor, License No. LAA001006</i>

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## EXECUTIVE SUMMARY

ECON Environmental Pty Ltd was engaged by V Homes Developments Pty Ltd to undertake a Preliminary Site Investigation on the nominated subject sites located at 40-42 Mamre Road, St Marys NSW 2760.

The objective of the investigation is to assess the potential for site contamination, based on historical and current land use practices as well as a site inspection of the subject sites, and to evaluate its suitability for its intended land use and proposed multi house residential development.

The total combined area of the subject site (40 & 42 Mamre Roads) is approximately 2,151m<sup>2</sup>, with 40 Mamre Road being approximately 1,076m<sup>2</sup>, and 42 Mamre Road being approximately 1,075m<sup>2</sup>. A site inspection was carried out on Monday 3<sup>rd</sup> May 2021 by ECON Environmental's representative Con Kariotoglou, which involved a visual assessment of the entire sites of both properties and surrounding areas. Details of the findings are presented within the body of this report, as well as an assessment of significance with regards to the findings of the investigation.

Based on the current data and evidence collected during the site inspection on Monday 3<sup>rd</sup> May 2021, the following findings of this Preliminary Site Investigation within both properties, are as follows:

### **40 Mamre Road, St Marys:**

- The site consisted of a single-storey fibre-cement panelled residential house with terracotta roof tiles and a concrete paved area at the rear of the property,
- A concrete driveway runs from the front of the property to the rear garage,
- The rear garage consists of fibre-cement walls and roof and is in poor condition,
- Low lying grasses and vegetation were evident covering the front and back yards,
- The property was occupied at the time of the inspection,
- No visible signs of oil stains or olfactory signs of odours were detected during the inspection within the subject site.
- Visible signs of asbestos containing materials (ACM) were noted on building structures within the main residence and within the rear garage within the property,
- No visible signs of ACM were noted on surface soils within the boundaries of the property,
- No evidence of underground or above ground chemical storage tanks were evident within the subject site.
- No evidence of any potential human and environmental areas of concern were evident during the inspection within the subject site.

### **42 Mamre Road, St Marys:**

- The site consisted of a single-storey brick and fibre-cement panelled residential house with terracotta roof tiles, the house was in poor condition.
- The property showed signs of hoarding with the following items detected within the property: several cars, car parts, engines parts, tyres, trailers, corrugated tin roof sheeting, fridges, timber and steel furniture, timber pallets, stockpiles of construction materials including bricks,

timbers and steel, paint cans, household rubbish and asbestos containing materials (fragments and sheets).

- Low lying grasses and vegetation were evident covering the front and back yards,
- A concrete driveway runs from the front of the property to the rear of the house,
- The property was occupied at the time of the inspection,
- Visible signs of oil stains were detected during the inspection beneath the cars and car parts within the rear portion of the property.
- No olfactory signs of odours were detected during the inspection within the property.
- Visible signs of asbestos containing materials (ACM) were noted on building structures within the main residence and within the rear of the property on surface soils,
- No evidence of underground or above ground chemical storage tanks were evident within the subject site.
- Evidence of potential human and environmental areas of concern were evident during the inspection within the entire subject site.

Based on historical data of previous business activities within and adjacent to the subject site (2005-2020), the underlying soils **DOES** have the potential to be comprised of hazardous materials.

Currently human exposure risk to the potential contaminants identified is currently **MEDIUM** as:

- The sites are not locked or fenced off to prevent public access,
- There is visible evidence to suggest that the sites have underlying soils which may be contaminated. Therefore, there is a potential exposure risk to humans and the environment from underlying contaminating soils.

Site history information and onsite inspection observations within the proposed residential development footprint area of the subject site indicate that there is a **MEDIUM-HIGH** potential for contaminants to provide exposure risks to humans and the environment, due to the following:

- The subject sites have not been significantly altered since 1965.
- Historically potentially contaminating activities have been identified within both the subject sites. Historical evidence of garages and/or service station has been identified as being located within the subject sites and therefore likely to cause polluting activities within the subject site.
- Visible signs of environmental areas of concern during site inspection were identified within the 42 Mamre Road property.
- If the proposed development includes the demolition of existing building structures and excavation of underlying soils within the development footprint area, then there is a **HIGH** potential for contaminants present within the subject site to have the ability to migrate vertically up into the atmosphere (asbestos fibres dispersed) or washed downgradient with stormwater runoff into adjacent properties or into the Mamre Road drainage system (chemicals and asbestos).

Subject to the above, it is considered that the subject site can be made suitable for its future proposed development and intended land use, subject to the following recommendations:

- A **Detailed Site Investigation** is to be undertaken within the subject site (40 & 42 Mamre Road, St Marys) subject to historical data of business activities and current inspection observations within the subject site.
- If contamination is identified during the Detailed Site investigation, then a **Remedial Action Plan (RAP)** is to be prepared detailing appropriate remediation and validation procedures to render the subject site suitable for its future proposed development and intended land use.
- A **Hazardous Material Assessment** is to be undertaken within the subject site (40 & 42 Mamre Road, St Marys), to locate and register all hazardous building structure materials, *if greater than 10 square metres*, and recommend appropriate removal works, prior to the demolition of existing building structures within the subject site.
- An **Asbestos Clearance Certificate** is to be provided by SafeWork NSW Licenced Approved Asbestos Assessor (LAA) prior to building demolition, to confirm that all hazardous materials within the subject sites (40 & 42 Mamre Road, St Marys) have been appropriately removed.

Any proposed excavations of underlying soils for the proposed development will require a **Waste Classification** assessment prior to any excavation and disposal of soil material offsite to a NSW EPA licenced facility, in accordance with the NSW EPA Waste Classification Guidelines Part 1: Classifying Waste (2014).

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## 1. INTRODUCTION

### 1.1 Background

ECON Environmental Pty Ltd was engaged by V Homes Developments Pty Ltd to undertake a Preliminary Site Investigation on the nominated subject sites located at 40-42 Mamre Road, St Marys NSW 2760.

The objective of the investigation is to assess the potential for site contamination, based on historical and current land use practices as well as a site inspection of the subject sites, and to evaluate its suitability for its intended land use and proposed multi house residential development.

The total combined area of the subject site (40 & 42 Mamre Roads) is approximately 2,151m<sup>2</sup>, with 40 Mamre Road being approximately 1,076m<sup>2</sup>, and 42 Mamre Road being approximately 1,075m<sup>2</sup>. A site inspection was carried out on Monday 3<sup>rd</sup> May 2021 by ECON Environmental's representative Con Kariotoglou, which involved a visual assessment of the entire sites of both properties and surrounding areas. Details of the findings are presented within the body of this report, as well as an assessment of significance with regards to the findings of the investigation.

This report was completed in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA, May 2020*.

### 1.2 Objectives

The objectives of this Preliminary Site Investigation are to:

- Identify potential contaminants of concern from past and present business activities within both the subject sites,
- Provide a preliminary assessment of the past and present condition of both the sites and potential for contamination; and
- Assess the need for further investigations for either or both sites.

### 1.3 Scope of Works

The scope of works included the following:

- Desktop historical searches, via purchased documents through Lotsearch,
- A site inspection of both the subject sites,
- Reporting in accordance with the associated legislations and guidelines.



#### 1.4 Legislative Requirements

The legislative framework for the report is based on guidelines that have been set out by the NSW Environmental Protection Agency (EPA) in the form of the following Acts/Regulations:

- Protection of the Environment Operations Act (1997)
- Protection of the Environment Operations Regulation (2008)
- Contaminated Land Management Act (1998)

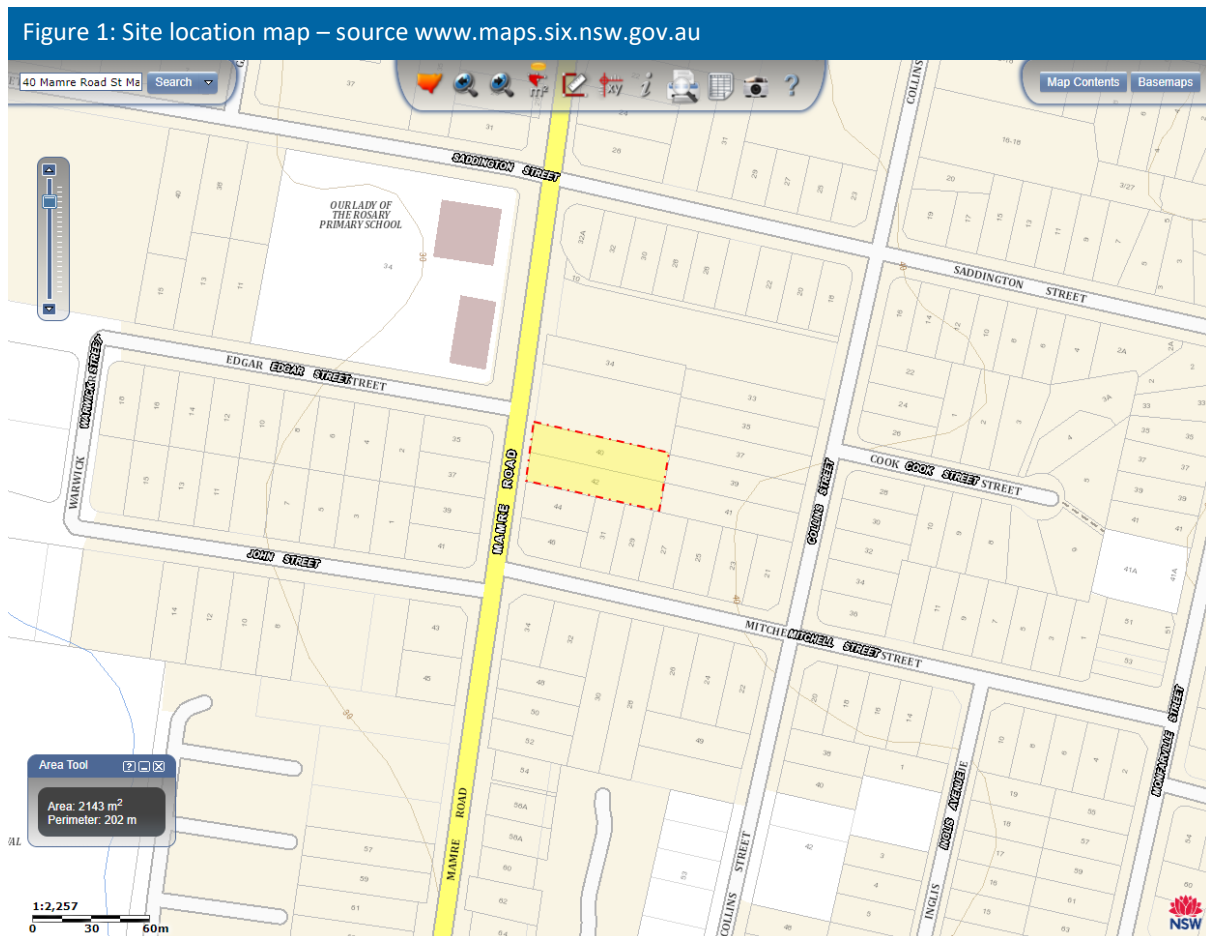
In addition, the following guidelines and technical documents have been reviewed and applied where applicable:

- Contaminated Land Management - Guidelines for the NSW Site Auditor Scheme (3 Edition, 2017).
- State Environmental Planning Policy No.55 (SEPP55) – Remediation of Land (2018)
- NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (2020).
- NSW EPA Sampling Design Guidelines (1995).
- NSW EPA Waste Classification Guidelines Part 1: Classifying Waste (2014).
- Guidelines on the Investigation Levels for Soil and Groundwater, National Environmental Protection Measure 1999, 2013 Amendment (NEPC, 2013).
- Guidelines for the Assessment, Remediation & Management of Asbestos - Contaminated Sites (DOH, 2009).

## 2. SITE IDENTIFICATION

The study sites are 40-42 Mamre Road, St Marys NSW 2760 (Figure 1). Both sites can be identified as rectangular shaped allotments surrounded by low density residential properties on all boundaries. Figure 2 shows an aerial photograph of the site and the surrounding land.

Table 1: Site Identification	
Street Address	40-42 Mamre Road, St Marys NSW 2760
Lot and DP Number	Lot 1 in DP 219187 – 40 Mamre Road Lot 1 in DP 111896 – 42 Mamre Road
Approx. Site Area	1,076m <sup>2</sup> - 40 Mamre Road 1,075m <sup>2</sup> - 42 Mamre Road 2,151m <sup>2</sup> - total combine
Zoning	R3 – Medium Density Residential SP2 - Infrastructure
Local Government Area	Penrith City Council
LGA Legislation	Penrith Local Environmental Plan 2010



### 3. REQUIREMENT REASONING

The objective of the ‘Preliminary Site Investigation’ is to assess the potential for site contamination, based on historical and current land use practices to ensure the site is suitable for its intended land use and proposed development within the subject site.

Figure 2: Aerial photograph of the subject site and surrounding areas – source [www.maps.six.nsw.gov.au](http://www.maps.six.nsw.gov.au)



#### 3.1 Proposed Development or Intended Land Use

The development approval includes a proposed multi housing residential development, as shown in the proposed development plans in Appendix A.

## 4. SITE DESCRIPTION

### 4.1 Site Inspections

On Monday 3<sup>rd</sup> May 2021, a site inspection was conducted by ECON Environmental's representative Con Kariotoglou. Field work was carried out in accordance with the methodology described in AS 4482.1 – 2005 and the NEPM (2013). At the time of inspection, the following observations were noted within both properties:

#### 40 Mamre Road, St Marys:

- The site consisted of a single-storey fibre-cement panelled residential house with terracotta roof tiles and a concrete paved area at the rear of the property,
- A concrete driveway runs from the front of the property to the rear garage,
- The rear garage consists of fibre-cement walls and roof and is in poor condition,
- Low lying grasses and vegetation were evident covering the front and back yards,
- The property was occupied at the time of the inspection,
- No visible signs of oil stains or olfactory signs of odours were detected during the inspection within the subject site.
- Visible signs of asbestos containing materials (ACM) were noted on building structures within the main residence and within the rear garage within the property,
- No visible signs of ACM were noted on surface soils within the boundaries of the property,
- No evidence of underground or above ground chemical storage tanks were evident within the subject site.
- No evidence of any potential human and environmental areas of concern were evident during the inspection within the subject site.

#### 42 Mamre Road, St Marys:

- The site consisted of a single-storey brick and fibre-cement panelled residential house with terracotta roof tiles, the house was in poor condition.
- The property showed signs of hoarding with the following items detected within the property: several cars, car parts, engines parts, tyres, trailers, corrugated tin roof sheeting, fridges, timber and steel furniture, timber pallets, stockpiles of construction materials including bricks, timbers and steel, paint cans, household rubbish and asbestos containing materials (fragments and sheets).
- Low lying grasses and vegetation were evident covering the front and back yards,
- A concrete driveway runs from the front of the property to the rear of the house,
- The property was occupied at the time of the inspection,
- Visible signs of oil stains were detected during the inspection beneath the cars and car parts within the rear portion of the property.
- No olfactory signs of odours were detected during the inspection within the property.
- Visible signs of asbestos containing materials (ACM) were noted on building structures within the main residence and within the rear of the property on surface soils,

- No evidence of underground or above ground chemical storage tanks were evident within the subject site.
- Evidence of potential human and environmental areas of concern were evident during the inspection within the entire subject site.

#### 4.2 Surrounding Land Use

The subject site is located within a low and medium density residential setting and bordered by:

- Low density residential properties directly north, south, east and west of the subject site.
- Our Lady of The Rosary Primary School, 30m northwest of the subject site,
- Wilson Oval, 220m south west of the subject site,
- Byrnes Creek, 245m southwest of the subject site,

#### 4.3 Topography

According to <https://www.environment.nsw.gov.au/eSpade2Webapp> the topography of the site includes flat to gently sloping alluvial plain with occasional terraces or levees providing low relief. Slopes <10m.

#### 4.4 Geology and Soils

The Geological Map of Gosford-Lake Macquarie (Geological Series Sheet 9131 & part sheet 9231, Scale 1:100,000), published by the Department of Mineral Resources indicated the site is located within an area underlain by Quaternary alluvium derived from Wianamatta Group shales and Hawkesbury Sandstone.

#### 4.5 Surface Water Hydrology

No surface water or distinct overland flow paths were noted during the investigation. The entire site was covered by grass and/or paved hardstand areas. Stormwater is expected to infiltrate into soils or sheet west down into Mamre Road stormwater system.

#### 4.6 Hydrogeology

Historical information indicates that the description of the aquifers onsite include porous, extensive highly productive aquifers.

A search of the State Department of Primary Industries Groundwater map showed five (5) groundwater wells within 500m radius of the subject site:

Table 2: Summary of Groundwater Boresearch

GW Bore ID	Intended Purpose	Final Depth (m BGL)	Salinity (mg/L)	SWL (m BGL)	Yield (L/s)	Distance from site	Direction from site
GW111101	Monitoring	7.00	-	-	-	363m	South
GW111099	Monitoring	7.00	-	-	-	377m	South
GW111100	Monitoring	8.00	-	-	-	381m	South
GW114599	Monitoring	6.00	-	-	-	382m	South
GW114600	Monitoring	6.30	-	-	-	400m	South

#### 4.7 Acid Sulfate Soils

What is the Australian Acid Sulfate Soil Categories within the dataset buffer?

Table 4: Acid Sulfate Soil Categories

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

## 5. HISTORICAL SITE RECORDS

### 5.1 List of NSW Contaminated Sites – Notified to the EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer.

Site	Address	Activity	Management Class	Status	Distance	Direction
7-Eleven (former Mobil Service Station)	2 Wilson Street, St Marys	Service Station	Regulation under CLM Act not required	Current EPA List	341m	South
St Marys Shopping Village	10 Charles Hackett Drive, St Marys	Other Industry	Regulation under CLM Act not required	Current EPA List	723m	North

### 5.2 Contaminated Land Records

Records from the NSW EPA Contaminated Land list within the dataset buffer:

- No records

### 5.3 Former Gasworks

Former Gasworks within the dataset buffer:

- No records

### 5.4 National Waste Management Site Database

National Waste Management within the dataset buffer?

- No records

### 5.5 National Liquid Fuel Facilities

National Liquid Fuel Facilities within the dataset buffer?

Owner	Name	Address	Class	Operational Status	Distance	Direction
7-Eleven	St Marys South	Mamre Road, ST Marys	Petrol Station	Operational	341m	South
BP	BP Connect Chatsworth	115-119 Mamre Road, St Marys	Petrol Station	Operational	736m	South

### 5.6 EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer?

- No records

**5.7 Air Services Australia National PFAS Management Program**

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

- No records

**5.8 Defense 3 Year Regional Contamination Program**

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

- No records

**5.9 Other EPA Sites with Contamination Issues**

- No records

**5.10 Licensed Activities under POEO Act 1997**

Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

- No records

**5.11 Delicensed Activities Still Regulated by EPA**

Delicensed activities still regulated by the EPA, within the dataset buffer:

- No records

**5.12 Former Licensed Activities under the POEO Act 1997, now revoked or surrendered.**

Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Organisation	Location	Status	Issued Date	Activity	Distance	Direction
Luhrmann Environment Management Pty Ltd	Waterways Throughout NSW	Surrendered	06.09.2000	Other Activities / No Scheduled Activity – Application of Herbicides	230m	West
Robert Orchard	Various Waterways throughout NSW – Sydney NSW 2000	Surrendered	07.09.2000	Other Activities / No Scheduled Activity – Application of Herbicides	230m	West



Sydney Weed & Pest Management Pty Ltd	Waterways throughout NSW – Prospect NSW 2148	Surrendered	09.11.2000	Other Activities / No Scheduled Activity – Application of Herbicides	230m	West
Fulton Hogan Construction Pty Ltd	M4 – East of Reservoir Road to East Mamre Road, Parramatta NSW 2150	Surrendered	30.06.2017	Road Construction	910m	South

### 5.13 Business Directory Records 1950-1991

Business Activity	Premises	Year	Distance	Direction
Motor Accessories / Dealers / Carburettors / Tuning Specialist / Motor Electricians / Motor Engine Reconditioning / Motor Spare Parts Dealers – Retail, Motor Service Stations – Petrol, Oils	Mamre Garage, Mamre Road, St Marys	1950-1970	0m	Onsite

### 5.14 Dry Cleaners, Motor Garages & Service Stations 1948-1993

Business Activity	Premises	Year	Distance	Direction
Motor Accessories / Dealers / Carburettors / Tuning Specialist / Motor Electricians / Motor Engine Reconditioning / Motor Spare Parts Dealers – Retail, Motor Service Stations – Petrol, Oils	Mamre Garage, Mamre Road, St Marys	1950-1970	0m	Onsite

### 5.15 Current Mining and Exploration Titles

Current Mining and Exploration Titles within the dataset buffer?

- No records

### 5.16 National or State Heritage List

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

- No records

## 6. HISTORICAL SITE AERIAL IMAGERY

### 6.1 Aerial Photographs

Historical site aerial imagery was inspected as part of this investigation to observed site and surrounding area changes between the period 1943-2020.

A summary of those findings is listed below, with the full aerial imagery shown in *Appendix D – Lotsearch*.

Table 5: Findings of the historical aerial photograph review

Year	Description
1943	<ul style="list-style-type: none"> <li>Black and white aerial low-resolution photo.</li> <li>Site appears to contain one residential property within the eastern portion of the subject site.</li> <li>Surrounding areas include farming land on all boundaries of the subject site.</li> </ul>
1949	<ul style="list-style-type: none"> <li>Black and white aerial low-resolution photo.</li> <li>No significant changes within the subject site.</li> <li>Construction of low-density residential properties to the south of the subject site.</li> </ul>
1956	<ul style="list-style-type: none"> <li>Black and white aerial low-resolution photo.</li> <li>Residential house within the eastern portion of the property has been removed, the site is now vacant.</li> <li>Further subdivision and construction of low-density residential properties to the east, north and south and west of the subject site.</li> </ul>
1961	<ul style="list-style-type: none"> <li>Black and white aerial high-resolution photo.</li> <li>Newly constructed residential property within the SW portion of the subject site (on 42 Mamre Road).</li> <li>Further subdivision of land and construction of low-density residential properties to the east, north and south and west of the subject site.</li> </ul>
1965	<ul style="list-style-type: none"> <li>Black and white aerial low-resolution photo.</li> <li>Construction of a new residential property within the NW portion of the subject site (on 40 Mamre Road)</li> <li>No significant changes to the surrounding areas.</li> </ul>
1970	<ul style="list-style-type: none"> <li>Black and white aerial low-resolution photo.</li> <li>No significant changes within the subject site.</li> <li>Further construction of low-density residential properties to the east of the site.</li> </ul>
1978	<ul style="list-style-type: none"> <li>Black and white aerial low-resolution photo.</li> <li>Additional of small (shed like) structures within the rear yards of both properties.</li> <li>Further construction of low density residential properties around the subject site.</li> </ul>
1982	<ul style="list-style-type: none"> <li>Coloured aerial low-resolution photo.</li> <li>No significant changes to the subject site.</li> <li>Construction of a commercial properties to the north and north west of the site.</li> </ul>
1986	<ul style="list-style-type: none"> <li>Coloured aerial low-resolution photo.</li> <li>No significant changes to the subject site.</li> <li>No significant changes to the surrounding areas</li> </ul>
1991	<ul style="list-style-type: none"> <li>Coloured aerial low-resolution photo.</li> </ul>

	<ul style="list-style-type: none"> <li>No significant changes to the subject site.</li> <li>No significant changes to the surrounding areas</li> </ul>
1994	<ul style="list-style-type: none"> <li>Coloured aerial low-resolution photo (pixelated).</li> <li>No significant changes to the subject site</li> <li>No significant changes to the surrounding areas</li> </ul>
2000	<ul style="list-style-type: none"> <li>Coloured aerial medium resolution photo.</li> <li>No significant changes to the subject site</li> <li>No significant changes to the surrounding areas</li> </ul>
2005	<ul style="list-style-type: none"> <li>Coloured aerial medium-resolution photo.</li> <li>Both 40 &amp; 42 Mamre Road properties shows numerous motor vehicles parked within the front and rear yards of the subject sites.</li> <li>No significant changes to the surrounding areas</li> </ul>
2009	<ul style="list-style-type: none"> <li>Coloured aerial high-resolution photo.</li> <li>All vehicles which appeared in the 2005 photograph have been removed from both sites.</li> <li>Construction of medium density residential properties to the southwest of the subject site.</li> </ul>
2015	<ul style="list-style-type: none"> <li>Coloured aerial high-resolution photo.</li> <li>No significant changes to 40 Mamre Road property. Numerous parked vehicles have appeared within 42 Mamre Road.</li> <li>Further construction of the school to the northwest of the subject site.</li> </ul>
2020	<ul style="list-style-type: none"> <li>Coloured aerial high-resolution photo.</li> <li>No significant changes to 40 Mamre Road property. Additional debris have appeared within the rear yard of 42 Mamre Road.</li> <li>Further construction of medium density properties to the north and south west of the subject site.</li> </ul>

## 6.2 Information Gaps

A site history has been established using the various sources as outlined above. However, the following information gaps have been identified:

- Inferences have been drawn based on 'point in time' aerial photographs.
- Historical business directories were matched to named roads and not the exact premises and are therefore approximate location.

Regarding the information available, it is considered that the quality of the information is consistent with the industry standard and that the information is of high integrity with respect to the historical use of the site overall.

## 7. CONCEPTUAL SITE MODEL (CSM)

### 7.1 Potential Areas of Concern

Based on the historical records and aerial photographs inspected, as well as the current site inspection observations, the following Table 6 identifies the main Potential Areas of Environmental Concern (PAECs), and their associated potential Contaminants of Concern (COCs) within the subject site using the information gathered through this assessment and qualitative judgement based on consultant experience.

Table 6: Potential Areas of Environmental Concern			
PAEC	Potentially Contaminating Activity	Contaminants of Concern	Likelihood of Contamination
40 Mamre Road Entire site	May contain potentially hazardous materials within underlying soils	Heavy Metals, TPH, BTEX, PAH, Asbestos	Likely, <i>due to historical evidence (2005 photograph) of potentially hazardous activities within the site.</i>
42 Mamre Road Entire site	May contain potentially hazardous materials within underlying soils	Heavy Metals, TPH, BTEX, PAH, Asbestos	Likely, <i>due to historical evidence (2005-2020 photograph) and current inspection evidence of potentially hazardous activities within the site.</i>

### 7.2 Human Receptors and Sensitive Environments

#### On-site Human Receptors & Sensitive Environments:

- Construction workers during the construction process
- Future users and/or occupants of the site

#### Off-site Human Receptors & Sensitive Environments:

- Occupants of the low and medium density residential properties directly surrounding the subject site,
- Staff and students at Our Lady of The Rosary Primary School, 30m northwest of the subject site,
- Public users of Wilson Oval, 220m south west of the subject site,
- Natural ecosystems within Byrnes Creek, 245m southwest of the subject site.

## 8. CONCLUSION AND RECOMMENDATIONS

### 8.1 Site Observations

Based on the current data and evidence collected during the site inspection on Monday 3<sup>rd</sup> May 2021, the following findings of this Preliminary Site Investigation within both properties, are as follows:

#### 40 Mamre Road, St Marys:

- The site consisted of a single-storey fibre-cement panelled residential house with terracotta roof tiles and a concrete paved area at the rear of the property,
- A concrete driveway runs from the front of the property to the rear garage,
- The rear garage consists of fibre-cement walls and roof and is in poor condition,
- Low lying grasses and vegetation were evident covering the front and back yards,
- The property was occupied at the time of the inspection,
- No visible signs of oil stains or olfactory signs of odours were detected during the inspection within the subject site.
- Visible signs of asbestos containing materials (ACM) were noted on building structures within the main residence and within the rear garage within the property,
- No visible signs of ACM were noted on surface soils within the boundaries of the property,
- No evidence of underground or above ground chemical storage tanks were evident within the subject site.
- No evidence of any potential human and environmental areas of concern were evident during the inspection within the subject site.

#### 42 Mamre Road, St Marys:

- The site consisted of a single-storey brick and fibre-cement panelled residential house with terracotta roof tiles, the house was in poor condition.
- The property showed signs of hoarding with the following items detected within the property: several cars, car parts, engines parts, tyres, trailers, corrugated tin roof sheeting, fridges, timber and steel furniture, timber pallets, stockpiles of construction materials including bricks, timbers and steel, paint cans, household rubbish and asbestos containing materials (fragments and sheets).
- Low lying grasses and vegetation were evident covering the front and back yards,
- A concrete driveway runs from the front of the property to the rear of the house,
- The property was occupied at the time of the inspection,
- Visible signs of oil stains were detected during the inspection beneath the cars and car parts within the rear portion of the property.
- No olfactory signs of odours were detected during the inspection within the property.
- Visible signs of asbestos containing materials (ACM) were noted on building structures within the main residence and within the rear of the property on surface soils,

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- No evidence of underground or above ground chemical storage tanks were evident within the subject site.
- Evidence of potential human and environmental areas of concern were evident during the inspection within the entire subject site.

## 8.2 Historical Data

Based on historical data of previous business activities within and adjacent to the subject site (2005-2020), the underlying soils **DOES** have the potential to be comprised of hazardous materials.

## 8.3 Potential Risks to Onsite Receptors

Currently human exposure risk to the potential contaminants identified is currently **MEDIUM** as:

- The sites are not locked or fenced off to prevent public access,
- There is visible evidence to suggest that the sites have underlying soils which may be contaminated. Therefore, there is a potential exposure risk to humans and the environment from underlying contaminating soils.

## 8.4 Potential for Migration of Contaminants

Site history information and onsite inspection observations within the proposed residential development footprint area of the subject site indicate that there is a **MEDIUM-HIGH** potential for contaminants to provide exposure risks to humans and the environment, due to the following:

- The subject sites have not been significantly altered since 1965.
- Historically potentially contaminating activities have been identified within both the subject sites. Historical evidence of garages and/or service station has been identified as being located within the subject sites and therefore likely to cause polluting activities within the subject site.
- Visible signs of environmental areas of concern during site inspection were identified within the 42 Mamre Road property.
- If the proposed development includes the demolition of existing building structures and excavation of underlying soils within the development footprint area, then there is a **HIGH** potential for contaminants present within the subject site to have the ability to migrate vertically up into the atmosphere (asbestos fibres dispersed) or washed downgradient with stormwater runoff into adjacent properties or into the Mamre Road drainage system (chemicals and asbestos).

Subject to the above, it is considered that the subject site can be made suitable for its future proposed development and intended land use, subject to the following recommendations:

- A **Detailed Site Investigation** is to be undertaken within the subject site (40 & 42 Mamre Road, St Marys) subject to historical data of business activities and current inspection observations within the subject site.
- If contamination is identified during the Detailed Site investigation, then a **Remedial Action Plan (RAP)** is to be prepared detailing appropriate remediation and validation procedures to render the subject site suitable for its future proposed development and intended land use.
- A **Hazardous Material Assessment** is to be undertaken within the subject site (40 & 42 Mamre Road, St Marys), to locate and register all hazardous building structure materials, *if greater than 10 square metres*, and recommend appropriate removal works, prior to the demolition of existing building structures within the subject site.
- An **Asbestos Clearance Certificate** is to be provided by SafeWork NSW Licenced Approved Asbestos Assessor (LAA) prior to building demolition, to confirm that all hazardous materials within the subject sites (40 & 42 Mamre Road, St Marys) have been appropriately removed.
- Any proposed excavations of underlying soils for the proposed development will require a **Waste Classification** assessment prior to any excavation and disposal of soil material offsite to a NSW EPA licenced facility, in accordance with the NSW EPA Waste Classification Guidelines Part 1: Classifying Waste (2014).

## 9. LIMITATION STATEMENT

ECON Environmental Pty Ltd has undertaken the following report in accordance with the scope of works set out between ECON Environmental Pty Ltd and the client. ECON Environmental Pty Ltd derived the data in this report primarily from the site and soil assessment conducted on the date of site inspection. The impacts of future events may require future investigation of the site and subsequent data analysis, together with a re-evaluation of the conclusions and recommendations of this report.

In preparing this report, ECON Environmental Pty Ltd has relied upon, and assumed accurate, certain site information provided by the client and other persons. Except as otherwise stated in the report, we have not attempted to verify the accuracy or completeness of any such information. ECON Environmental Pty Ltd accepts no liability or responsibility whatsoever for or in respect to any use or reliance upon this report by any third party.

The information contained within this report have been prepared exclusively for the client. ECON Environmental Pty Ltd have prepared the report to address the risk associated with scale of the works. The report has been prepared with a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia. No other warranty, expressed or implied, is made or intended. This report is to be read in its entirety including attachments and appendices and should not read in individual sections.

A third party should not rely upon the information prior to making an assessment that the scope of work conducted meets their specific needs. ECON Environmental Pty Ltd cannot be held liable for third party reliance on this document.

ECON Environmental Pty Ltd professional opinions are based upon its professional judgment, experience, training and results from analytical data. In some cases, further testing and analysis may be required, thus producing different results and/or opinions. ECON Environmental Pty Ltd has limited its investigation to the scope agreed upon with its client.



