

VICROADS

# Mordialloc Bypass

## PHASE 1 PRELIMINARY SITE ASSESSMENT REPORT

2135645A-SE-26-CLM-REP-0011 Rev00

CONFIDENTIAL

JULY 2017

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VicRoads

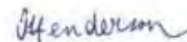
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## EXECUTIVE SUMMARY

WSP Australia Pty Ltd (WSP) was commissioned by VicRoads to undertake a Phase 1 preliminary site investigation (PSI) for the Mordialloc Bypass project, located from Springvale Road, Aspendale Gardens, to the newly constructed Dingley Bypass, Dingley Village, Victoria (the site).

This report summarises the desktop review for the site including current site conditions, site history and potential contamination associated with historical and/or current project site activities. The intent of the PSI report is to provide advice in relation to the presence of any land contamination at the site.

A review of the current and historical activities (including nearby businesses) undertaken at the site identified some potential sources of contamination to soil, located in the vicinity of or beneath the proposed road alignment.

Based on the property located at 370-418 Old Dandenong Road, Dingley Village (former Din San Landfill), there is a potential for contamination to be present within this portion of the proposed road alignment. In addition, it is understood that the property located at Lot 2, Grange Road, Dingley Village, Victoria (currently occupied by Enviromix Pty Ltd) was formerly a sand quarry that was progressively landfilled during the early 1960s with both liquid and solid industrial wastes. It is recommended that a more detailed assessment of the identified current/historical (potentially contaminating) land use activities; and the potential for imported contaminated fill to have been used beneath the proposed road alignment, should be conducted prior to any detailed design or construction activities.

Based on the findings of this report, the potential for contamination to be present near to the project site because of past/present land use activities is considered plausible. It is recommended that an intrusive soil assessment be undertaken prior to the road development works, so that any potential human health and/or environmental risk can be assessed and managed accordingly.

A health, environment, safety and/or construction plan (or similar) should be developed to manage the works in areas identified to have potential contamination present (following the intrusive soil assessment).

# 1 INTRODUCTION

WSP Australia Pty Ltd (WSP) was commissioned by VicRoads to undertake a Phase 1 preliminary site investigation (PSI) for the Mordialloc Bypass project, from Springvale Road, Aspendale Gardens to the newly constructed Dingley Bypass in Dingley Village, Victoria (the site).

The PSI report comprises a desktop review of available current and historical site information. The intent of the PSI report is to provide advice in relation to the potential presence of land contamination at the site.

## 1.1 Project background

Population and urban growth has outpaced road infrastructure capacity investment in many outer suburban areas of metropolitan Melbourne. The Victorian Government has made one of the biggest investments ever for outer suburban roads to cater for the rapid growth.

Melbourne's southern movement corridor connects the Mornington Peninsula and Southern and Bayside suburbs to the central city and to National Employment Clusters in Monash and Dandenong. In addition to enabling cross-city movements, the corridor provides road users with access to residential zones, recreation areas and employment and activity centres within the City of Kingston and adjacent municipalities, including the significant national employment cluster in the City of Monash. This project connects the Mornington Peninsula Freeway in the south to the Dingley Bypass to the north.

The Mordialloc Bypass project includes:

1. Provision of a new road connection with a minimum of four lanes with grade separated intersection at Springvale Road.
2. An elevated structure over Bowen Parkway, Mordialloc Creek and the adjacent wetlands, and critical utilities.
3. Wherever practical, provisions for future grade separated interchanges are made.
4. A Shared Use Path crossing of the alignment south of Lower Dandenong Road along with a number of major culverts/small bridges at the key waterway crossings.

Supporting upgrades of the crossroads, particularly where they interface near interchanges on the Mordialloc Bypass.

## 1.2 Objective

The objectives of the investigation were to:

- complete a desktop review of current and historical information for the site
- identify potential current and/or historical contaminating activities
- provide preliminary advice on any additional investigations, which may be required, to further assess/confirm whether contamination is present.

## 1.3 Scope of work

The scope of works for the Phase 1 PSI included the following:

- Desktop review comprising:
  - physical setting of the site including topography, hydrogeology/hydrology and geology
  - groundwater database search – 2 km radius
  - EPA notices
  - nearby completed environmental audit reports
  - planning and zoning information
  - cultural heritage overlays

- ecological constraints
- natural hazards
- historical aerial photographs
- acid sulphate soils
- waste management.

The Phase 1 PSI also included the preparation of this report documenting the findings of the investigation.

Of note, the desktop review was performed by commissioning Lotsearch to undertake searches of relevant databases of publicly available information regarding historical and current site uses, regional information and site setting details, aerial imagery and regulatory information. Given the nature of the roads to be several kilometres long, Lotsearch divided their reports for the site into 1 km sections and included a 150 m buffer zone around each section for ease of reference (i.e. ten Lotsearch reports were provided as Sections 1 to 10).

A review and interpretation of these reports was then undertaken for the site; and the relevant information reported as part of this PSI report. Where deemed required, further database searches were undertaken by WSP to supplement the Lotsearch information.

## 2 SITE SETTING

### 2.1 Summary

A summary of the site setting is provided in Table 2.1 below. Further detailed information regarding the site setting is provided in this section. Figure 1, Appendix A depicts the project area and site boundaries. Zoning overlays are provided on Maps 1 to 7 in Appendix A.

**Table 2.1 Summary of site details**

PARAMETER	SITE DETAILS
Site address	Mordialloc Bypass, Aspendale Gardens and Dingley Village, Vic
Current site use(s)	Open space and road
Zoning	Road Zone – Category 1 (RDZ1) Road Zone – Category 2 (RDZ2) Commercial 2 Zone (C2Z) Commonwealth Land Not Controlled by Planning Scheme (CA) General Residential Zone – Schedule 3 (GRZ3) Green Wedge Zone (GWZ) Green Wedge Zone – Schedule 1 (GWZ1) Green Wedge Zone – Schedule 2 (GWZ2) Industrial 1 Zone (IN1Z) Public Park and Recreation Zone (PPRZ) Public Use Zone – Service & Utility (PUZ1) Public Use Zone – Other Public Use (PUZ7) Urban Floodway Zone (UFZ)
Road alignment length (km)	Approximately 9.0 km
Surrounding land uses	→ <b>North:</b> Open spaces, commercial/industrial → <b>East:</b> Open spaces, residential → <b>South:</b> Mainly residential → <b>West:</b> Commercial/industrial, open spaces
Proposed site use	Road

### 2.2 Site description

The following description of the site applies to the area shown on Figure 1, provided in Appendix A (site in relation to surrounding land uses).

The project area for Mordialloc Bypass traverses the suburbs of Clayton South, Dingley Village, Braeside, Waterways, Aspley Gardens, Chelsea Heights and Bangholme in the City of Kingston.

The site is situated approximately 25 km south east of the Melbourne CBD and 5 km east of Mordialloc. The proposed road extends north-west from the Mornington Peninsula Freeway's existing terminus at Springvale Road in Aspendale Gardens and links to the Dingley Bypass and provides connections to Governor Road, Lower Dandenong Road and Centre Dandenong Road.

### 2.2.1 Surrounding land uses

The following land uses were identified during the desktop reviews:

- North: open spaces and commercial/industrial properties including nurseries and a landfill, beyond which is the Dingley Bypass. The commercial/industrial properties located to the north of the site are associated with soil processing, nurseries and/or former landfill(s).
- East: a mixture of residential, parkland/open space. The north-eastern portion is mainly residential while the south-eastern portion are mainly parklands/open space including some waterways and wetlands.
- South: a mixture of residential, parkland/open space including some waterways and wetlands
- West: mainly commercial/industrial properties with some pockets of open spaces.

### 2.2.2 Planning overlays

The site is under the Kingston City Council Planning Scheme and is affected by the following planning overlays as summarised in Table 2.2. The planning overlays are depicted on Maps 1 to 7 provided in Appendix A.

The purpose of an Airports Environs Overlay (AEO), among others, is to identify areas affected by a high level of aircraft noise. This includes areas where the use of land for uses sensitive to aircraft noise will be restricted. AEO Schedule 1 (AEO1) relates to areas surrounding the Moorabbin Airport which is located offsite to the north-east.

The purpose of a Design and Development Overlay (DDO) is to identify areas which are affected by specific requirements relating to the design and build of the new development. DDO Schedule 4 (DDO4) relates to *aviation obstacle referral height area no. 1* (i.e. permit is required to construct building or carry out works, which exceeds 16m in height). DDO Schedule 5 (DDO5) relates to *aviation obstacle referral height area no.2* (i.e. permit is required to construct building or carry out works, which exceeds 25m in height). DDO Schedule 6 (DDO6) relates to the Kingston Lodge Site.

The purpose of an Environmental Significance Overlay (ESO) is to identify areas where the development of land may be affected by environmental constraints. ESO Schedule 3 (ESO3) relates to protection and conservation of all significant trees listed in the City of Kingston's *Register of Significant Trees* (May 2007).

The purpose of a Heritage Overlay (HO), among others, is for a written authorisation from responsible authority to be obtained prior to development. HO3 relates to a heritage site listed as *Christ Church* located in 387-405 Old Dandenong Road (corner Centre Road and Dandenong Road, Dingley). HO104 relates to a heritage site listed as *Braeside Park Precinct – remnant MMBW equipment* located in Lower Dandenong Road, Braeside.

The purpose of an Incorporated Planning Overlay (IPO) is to identify areas which require the form and conditions of future use and development to be shown on an incorporated plan before a permit can be granted to use or develop the land and a planning scheme amendment before the incorporate land can be changed. IPO Schedule 2 (IPO2) relates to the *Kingston Lodge Concept Plan* (2006) and *Kingston Lodge Precinct Development Plan* (1997). IPO Schedule 3 (IPO3) relates to the *Aspendale Gardens Incorporated Plan* (1999) and *Wells Road, Aspendale Gardens Landscape Concept Plan for Outline Development Plan* (1999).

The purpose of a Land Subject to Inundation Overlay (LSIO), among others, is to identify land in a flood storage or flood fringe area affected by 1 in 100 year flood or any other area determined by the floodplain management authority and to ensure that the development maintains the free passage and temporary storage of floodwaters.

The purpose of a Public Acquisition Overlay (PAO), among others, is to identify land which is proposed to be acquired by a Minister, public authority or municipal council. PAO1 relates to land where the purpose of acquisition is construction or widening of a road and the acquiring authority is Roads Corporation (i.e. VicRoads). PAO2 relates to land where the purpose of acquisition is Public Open Space and the acquiring authority is Parks Victoria.

Table 2.2 Summary of planning overlays

PLANNING OVERLAY TYPE	ROAD SECTION									
	1	2	3	4	5	6	7	8	9	10
Airports Environs Overlay (AEO1)	x	✓ BZ	✓ BZ	x	x	x	x	x	x	x
Design and Development Overlay (DDO4, DDO5, DDO6)	✓ BZ, RA (DDO5)	✓ BZ (DDO4, DDO5)	✓ BZ, RA (DDO4, DDO5)	✓ BZ, RA (DDO5)	✓ BZ, RA (DDO5, DDO6)	✓ BZ (DDO6)	✓ BZ, RA (DDO6)	✓ BZ, RA (DDO6)	✓ BZ (DDO6)	x
Environmental Significance Overlay (ESO3)	x	x	x	x	x	x	x	x	✓ BZ, RA (ESO3)	x
Heritage Overlay (HO3, HO104)	x	✓ BZ (HO3)	x	✓ BZ (HO104)	x	x	x	x	x	x
Incorporated Planning Overlay (IPO2, IPO3)	x	x	x	x	✓ BZ, RA (IPO2)	✓ BZ (IPO2)	✓ BZ, RA (IPO2, IPO3)	✓ BZ, RA (IPO2, IPO3)	✓ BZ (IPO2, IPO3)	✓ BZ (IPO3)
Land Subject to Inundation Overlay (LSIO)	x	✓ BZ	✓ BZ, RA	x	✓ BZ, RA	✓ BZ, RA	✓ BZ, RA	✓ BZ, RA	✓ BZ, RA	✓ BZ
Public Acquisition Overlay (PAO1, PAO2)	✓ BZ, RA (PAO1); BZ (PAO2)	✓ BZ, RA (PAO1);	✓ BZ, RA (PAO1)	✓ BZ, RA (PAO1)	✓ BZ, RA (PAO1)	✓ BZ, RA (PAO1)	✓ BZ, RA (PAO1)	✓ BZ, RA (PAO1)	✓ BZ (PAO1)	✓ BZ (PAO1)
Special Building Overlay (SBO)	x	✓ BZ, RA	✓ BZ, RA	x	x	x	x	x	x	x

## Notes:

x – planning overlay not applicable

✓ – planning overlay applicable

BZ – within buffer zone

RA – within road alignment

The purpose of a Special Building Overlay (SBO), among others, is to identify land in urban areas liable to inundation by overland flows from the urban drainage system and to ensure that development maintains free passage and temporary storage of floodwaters.

### 2.2.3 Sensitive land uses

Sensitive land uses identified within a 2 km radius of the site comprise:

- residential properties to the south and east
- commercial/industrial properties located to the north, west and south
- recreational/open space areas including waterways and wetlands in the east and south-east
- Mordialloc Creek (running north-west to south-east in the south-eastern portion of the site)

### 2.2.4 Potential acid sulphate soils

Prospective coastal acid sulphate soils have been identified within the road alignment and site buffer within road Sections 4 to 10. Refer to the Lotsearch reports (Sections 1 to 10) within Appendix B for further details.

### 2.2.5 Ecological constraints

Native vegetation occurs within the proposed road alignment and site buffer which includes the following:

- Creekline Grassy Woodland (0068)
- Damp Sands Herb-rich Woodland/Healthy Woodland Mosaic (0881)
- Plains Grassy Wetland (0125)
- Plains Grassy Woodland (0055)
- Plains Grassy Woodland/Swamp Scrub/Plains Grassy Wetland Mosaic (0927)
- Swamp Scrub (0053).

Majority of the native vegetation within the proposed road alignment consist of Plains Grassy Wetland which is mostly present within road Sections 5 to 10. There were no RAMSAR wetlands identified within the site buffer. Refer to the Lotsearch reports (Section 1 to 10) within Appendix B for further details.

### 2.2.6 Cultural heritage sensitivity

Areas of cultural heritage sensitivity as specified in the Aboriginal Heritage Regulations 2007 were listed for the site, within road Sections 4 to 9. Refer to the Lotsearch reports (Sections 1 to 10) within Appendix B for further details.

### 2.2.7 Natural hazards

Some parts of the site (i.e. Sections 3, 4, 5, 9 and 10) have been listed as a designated bushfire prone areas within the 'Natural Hazards' search results. There was no recorded fire history for the site. Available records indicate the area is not within a 1 in 100 year flood zone. Refer to the Lotsearch reports (Section 1 to 10) within Appendix B for further details.

### 2.2.8 Topography

The topography of the site is relatively flat, with gentle rises in the landscape. The lowest lying section of site is in the south around the Waterways Wetlands, at around 4 m above sea level. The topography increases gradually heading north, to approximately 32 m elevation at the top of the project boundary.

There are numerous surface water bodies present within the site buffer. Most of the natural surface water bodies are present in the south-east portion which includes the Woodlands Wetlands Lakes, Waterways Lakes and Lagoons and Mordialloc Creek. Some man-made drains are present running in north-south direction which includes the Clayton South Drain, Old Dandenong Road Drain and Mordialloc Settlement Drain; which all drain into the natural surface water features in the south/south-east (e.g. Mordialloc Creek).

Based on the topography of the site and the location of the surface water bodies, surface water flow/run-off is expected to flow towards the south-east.

### 2.2.9 Regional geology

The Geological Survey of Victoria, Ringwood Sheet No. 849 Zone 7, 1:63,000 shows that the site lies within geological deposits of:

- Quaternary inland dune deposits (Qd1), comprising sand, silt and clay: friable to consolidated; well sorted; includes both lunette deposits and deposits of longitudinal dunes.
- Pleistocene to Holocene swamp lake deposits (Qm1) comprising grey to black carbonaceous mud, silt, clay, minor peat: generally unconsolidated; rare dolomite.
- Holocene coastal lagoon deposits (Qg) comprising silt, clay: dark grey to black; variably consolidated.
- Holocene coastal dune deposits (Qdl1) comprising sand, silt and clay: well sorted, poorly consolidated; coastal dune and beach deposits; some swamp deposits.

These recent Quaternary deposits overlie Tertiary sands, of the Brighton Group, and potentially Tertiary silts and clays, of the Newport Formation. These overlie Silurian bedded sandstones and siltstones of the Dargile Formation at depth.

### 2.2.10 Regional and site specific hydrology and hydrogeology

As mentioned in Section 2.3.8 above, there are numerous surface water bodies in proximity of the site. The most prevalent are the Woodlands Wetlands Lakes, Waterways Lakes and Lagoons and Mordialloc Creek, all located in the south/south-eastern portion. Local groundwater flow direction is expected to be towards these features. However, regional groundwater flow direction is generally to the south/south-west, towards the direction of Port Phillip Bay, where these surface water features eventually drain.

According to the Department of Environment, Land, Water and Planning (DELWP), Victorian Groundwater Resource Report (2014) (<http://www.depi.vic.gov.au/water/groundwater/groundwater-resource-reports>, accessed February 2017), the principal aquifer within the study area is referred to as the Quaternary Aquifer (QA). Groundwater in the QA system is present within the sands, gravels, clays and silts.

Based on information obtained from [Visualising Victoria's Groundwater](http://www.vvg.org.au) (VVG) ([www.vvg.org.au](http://www.vvg.org.au)) in February 2017, the depth to groundwater at the site is between less than 5 and 10 metres; surface elevation is less than 50 metres (i.e. <32 m as per topography data). Groundwater in the area is characterised by salinity (total dissolved solids or TDS) concentrations of between <500–7,000 mg/L (note VVG referenced DEP). Based on this range of TDS concentrations, the regional aquifer is defined as Segments A1, A2, B and C and has the potential to be used for the following beneficial uses detailed in Table 2.3 below (as defined in the State Environment Protection Policy – Groundwaters of Victoria (SEPP GoV, 1997). Groundwater beneficial uses for the most sensitive segment (i.e. Segment A1) that require protection have been highlighted in Table 2.3 below.

**Table 2.3 Protected beneficial uses of the segments**

BENEFICIAL USES	SEGMENTS (mg/L TDS)				
	A1 (0-500)	A2 (501-1,000)	B (1,001-3,500)	C (3,501-13,000)	D (>13,000)
Maintenance of ecosystems	x	x	x	x	x
Potable water supply					
→ Desirable	x				
→ Acceptable		x			
Potable mineral water supply	x	x	x		



BENEFICIAL USES	SEGMENTS (mg/L TDS)				
	A1 (0-500)	A2 (501-1,000)	B (1,001-3,500)	C (3,501-13,000)	D (>13,000)
Agriculture, parks and gardens	x	x	x		
Stock watering	x	x	x	x	
Industrial water use	x	x	x	x	x
Primary contact recreation	x	x	x	x	
Buildings and structures	x	x	x	x	x

Notes: bold indicates beneficial uses that are required to be protected under Segment A1.

### 2.2.11 Groundwater database search

A search of the licenced borehole register from the 'Department of Environment and Primary Industries and Earth Resources' and the Hydrology Map of Australia (as conducted by Lotsearch); was undertaken for the length of the site in 1 km increments with a 2 km buffer radius. Within the entire site buffer i.e. road sections 1 to 10), 360 bores were listed. The search results are summarised in Table 2.4. The 10 closest bores to the site are summarised below in Table 2.5 .Additional information on the groundwater bore search and the data obtained is presented in Appendix B.

**Table 2.4** Groundwater bore database summary

ROAD SECTION	1	2	3	4	5	6	7	8	9	10
Static water level (mBGL)	<5-10	<5-10	<5	<5	<5	<5	<5	<5	<5	<5
TDS (mg/L)	<500 to 1,000	<500 to 1,000	500 to 3,500	1,000 to 3,500	1,000 to 3,500	1,000 to 3,500	1,000 to 7,000	3,500 to 7,000	1,000 to 7,000	3,500 to 7,000
Surface elevation (mAHD)	17 to 31	12 to 23	8 to 12	4 to 8	3 to 4	3	3	2 to 3	2 to 3	2 to 3
Aquifer type	Porous, extensive, highly productive aquifers									
Lithology	Mud, silt, clay, peat and dolostone									
Bore use	One or more of the following bore uses were listed: → domestic and stock use → agro industries → dairy → irrigation → groundwater investigation and observation									

Notes: mBGL – meters below ground level; TDS – total dissolved solids; mAHD – meters Australian Height Datum.

**Table 2.5** Groundwater database summary of 10 closest bores to site

BORE NUMBER	DISTANCE FROM SITE BOUNDARY (m)	YEAR INSTALLED	BORE USES	TOTAL BORE DEPTH (mBGL)	INFORMATION PROVIDED IN THE DATABASE
WRK966394	0	Unknown	Unknown	Unknown	Coordinates
WRK043346	0	Unknown	Unknown	Unknown	Coordinates
WRK039072	0	1986	Domestic, irrigation, stock	24.4	Coordinates, well construction, groundwater investigation use, lithology.
81673	0	1970	Unknown	42.3	Coordinates, well construction, groundwater investigation use, lithology.
81419	0	1971	Observation, state observation	43.0	Coordinates, well construction, groundwater investigation use, lithology.
127483	7	1996	Groundwater investigation	15.0	Coordinates, well construction, groundwater investigation use, lithology.
WRK982650	19	Unknown	Unknown	Unknown	Coordinates
76479	20	1986	Domestic	24.4	Coordinates, well construction, groundwater investigation use, lithology.
WRK069052	23	2012	Observation	9.5	Coordinates, well construction, groundwater investigation use, lithology.
WRK989236	47	Unknown	Unknown	Unknown	Coordinates

Notes: mBGL – meters below ground level.

## 3 SITE HISTORY

### 3.1 Aerial imagery review (historical and current)

WSP has reviewed the available historical aerial photographs from 1951 to 2016 (at least one image per decade) obtained by Lotsearch and via Google Earth imagery. The results of the review have been summarised in Table 3.1 (overleaf).

Copies of historical and current aerial photographs that were reviewed as part of the investigation are provided in Appendix B.

Table 3.1 Summary of aerial photograph review

ROAD SECTION	1951	1961/1962/1963/ 1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
1	<p><u>Onsite:</u></p> <p>The site comprises farmlands, mainly used for cropping with some vacant land/open space. Some rural properties exist to the north-east and in the central portion of the site. Grange Road was visible and appears to be an unsealed road.</p> <p><u>Offsite:</u></p> <p>The surrounding area comprised farmlands and vacant land/open space. A dam was present immediately north of site at the corner of Grange Road and Heatherton Road.</p> <p>Some nurseries and/or greenhouses appear to be present to the north.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Some commercial activities present in the north-eastern portion. Landfilling and/or quarrying in the central portion of the site (Lot 2 Grange Road) appear to have commenced.</p> <p><u>Offsite:</u></p> <p>More commercial developments present in all directions.</p> <p>Landfilling and/or quarrying activities in the property south-east of the site (370-418 Old Dandenong Road) appear to have commenced.</p> <p>Another dam now present immediately to the north-west.</p> <p>Farm structures (e.g. greenhouses and nurseries) appear to be present in property further to the north-west (corner Deals Road and Heatherton Road).</p>	<p><u>Onsite:</u></p> <p>Expansion of the landfilling and/or quarrying activity in the central portion observed.</p> <p><u>Offsite:</u></p> <p>More dams were constructed north-east of the site.</p> <p>Landfilling and/or quarrying activities appear to have commenced north-west of the site, at the corner of Grange Road and Heatherton Road. The landfilling and/or quarrying activities in the property south-east of the site appears to have expanded.</p> <p>The nurseries and/or greenhouse to the north of the site appears to have been removed.</p> <p>Systematic cropping in the eastern portion of Deals Road also ceased.</p> <p>All the other areas appear to be largely the same with some patches of commercial development mainly to the west and south.</p>	<p><u>Onsite:</u></p> <p>Expansion of the landfilling and/or quarrying activity in the central portion appears to be present.</p> <p><u>Offsite:</u></p> <p>The dams north-east of site have been backfilled.</p> <p>Landfilling and/or quarrying activities north of site and east of Deals Road appear to have commenced.</p> <p>All other areas appear to be largely the same while the quarry/landfills around the site appeared to be fully developed.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. More greenhouse have been built in the farmland in between Old Dandenong Road and Centre Dandenong Road.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p> <p>Quarrying/land clearing to the west of the site (corner of Junction Road and Grange Road) appears to have commenced.</p> <p>Residential properties appear to be present to the south-east and south. More commercial development were underway to the south.</p>	<p><u>Onsite:</u></p> <p>Landfilling in the central portion of the site appears to have ceased and some building structures were erected. Landfill cells along the proposed road alignment have been filled. A soil processing facility appears to be present (currently Enviromix located at Lot 2 Grange Road).</p> <p><u>Offsite:</u></p> <p>Dam to the north-west corner have been filled.</p> <p>Quarry to the west of the site appears to have expanded coverage.</p> <p>Quarrying/landfilling activities surrounding the site have been curbed. Soil processing appears to be present to the east.</p> <p>More residential properties appear to be present to the south and south-east.</p> <p>Boundary Road to the west was expanded with more lanes in both direction.</p>	<p><u>Onsite:</u></p> <p>Site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding land remains largely the same. Most landfill cells surrounding the site appear to have been capped. Soil processing area appears to expand further to the east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same with the exception of the construction of Dingley Bypass in the northern portion.</p> <p><u>Offsite:</u></p> <p>Landfill south and south-east of the site appears to have ceased operation although some landfill cells remain open.</p> <p>Landfill to the north of the site appears to have been filled and/or levelled.</p> <p>Further commercial development to the north-east.</p> <p>Further residential development to the east, south-east and south.</p>

ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>2</b>	<p><u>Onsite:</u></p> <p>The site comprises farmlands, mainly used for cropping with some vacant land/open space. Centre Dandenong Road is present in the central portion of the site. Centre Dandenong Road was visible and comprises one lane each way. Old Dandenong Road also visible and appears to be an unsealed road.</p> <p><u>Offsite:</u></p> <p>The surrounding areas comprise farmlands and vacant land/open space.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding areas remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Farm structures (e.g. greenhouses and dams) appear to be constructed in the land between Old Dandenong Road and Centre Dandenong Road.</p> <p><u>Offsite:</u></p> <p>Land to the south-east of the site have been converted to residential properties. Refer to Section 1 for changes to the north/north-east of the site.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same. More residential properties constructed offsite to the south-east. Refer to Section 1 for changes to the north/north-east of the site.</p>	<p><u>Onsite:</u></p> <p>Cropping has occurred along the northern portion of the site.</p> <p><u>Offsite:</u></p> <p>Commercial properties have been constructed immediately to the west. Construction of residential properties further expanded and have now extended up to the land immediately to the east. Refer to Section 1 for changes to the north/north-east of the site.</p>	<p><u>Onsite:</u></p> <p>Some greenhouses in the between Old Dandenong Road and Centre Dandenong Road have been removed. Commercial development (brick supplies as per other information obtained in this Phase 1 report) in the land immediately south of Centre Dandenong Road has commenced. Another commercial property/activity has commenced in the southern boundary.</p> <p><u>Offsite:</u></p> <p>Area to the west of the site remains largely the same with the exception of construction of more commercial properties. Construction of residential properties have now expanded immediately to the south-east of the site. Boundary Road to the west appears to be expanded with more lanes in both direction. Refer to Section 1 for changes to the north/north-east of the site.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Majority of the greenhouses in between Old Dandenong Road and Centre Dandenong Road have been removed.</p> <p><u>Offsite:</u></p> <p>Area to the west of the site remains largely the same with the exception of construction of more commercial properties. Construction of residential properties have now expanded immediately to the south-east of the site. Refer to Section 1 for changes to the north/north-east of the site.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. The commercial activity in the southern boundary appears to have ceased.</p> <p><u>Offsite:</u></p> <p>More commercial developments in areas to the west of the site and more residential developments in areas to the east, south-east and south-west.</p>

ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>3</b>	<p><u>Onsite:</u></p> <p>The site comprises farmlands, mainly used for cropping with some vacant land/open space. Lower Dandenong Road is present in the central portion of the site.</p> <p><u>Offsite:</u></p> <p>The areas surrounding comprise farmlands and vacant land/open space.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p> <p>Trenching immediately and parallel to the south-eastern boundary was present and appears to be a drain system.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Commercial activity appears to be present in the area immediately north of Lower Dandenong Road. The land in the south-eastern portion of the site appears to be prepared for commercial development.</p> <p><u>Offsite:</u></p> <p>Commercial properties have been constructed in the lands to the south and south-west of the site. Residential properties have been constructed in the lands to the north-east of the site.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Structures in the land immediately north of Lower Dandenong Road where commercial activity was observed have been removed.</p> <p><u>Offsite:</u></p> <p>More commercial properties have been constructed in the lands to the south and south-west of the site and more residential properties have been constructed in the lands to the east and north-east of the site.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Commercial activity in the south-eastern portion of the site appears to have ceased and structures previously present were removed.</p> <p><u>Offsite:</u></p> <p>The area surrounding the site continues to be developed for either commercial (to the west) or residential use (to the east/north-east).</p>	<p><u>Onsite:</u></p> <p>Old Dandenong Road has been upgraded and dual carriageway constructed north of the existing road. Woodlands Drive has been constructed servicing the commercial properties to the south. The rest of the site remains largely the same.</p> <p>Some infrastructures were erected back in the southern side.</p> <p><u>Offsite:</u></p> <p>Some infrastructures were erected in the area immediately north.</p> <p>Commercial development continued to expand and commercial properties have now been constructed immediately south of the site. Residential development also continued to expand to the east and north-east.</p>	<p><u>Onsite:</u></p> <p>Site remains largely the same.</p> <p>Infrastructure in the southern portion still present.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>Site remains largely the same.</p> <p>Infrastructure in the southern portion still present.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>

ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>4</b>	<p><u>Onsite:</u></p> <p>The site comprises farmland, mainly used for cropping with some vacant land/open space.</p> <p><u>Offsite:</u></p> <p>The surrounding area comprises farmlands and vacant land/open space.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Some silos and ponds/dam were built in the southern boundary.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p> <p>Trenching immediately and parallel to the north-eastern boundary was present and appears to be a drain system and connected to the ponds/dam that were constructed immediately south of the site.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The trenched area east of the site no longer appear in this image and assumed to be covered.</p> <p>Some ponds south of the site appear to be dry or have been backfilled.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Some silos appear to be decommissioned.</p> <p><u>Offsite:</u></p> <p>Majority of the ponds south of the site appear to be dry or have been backfilled.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p> <p>Parklands east of the site have been developed.</p>	<p><u>Onsite:</u></p> <p>Majority of the infrastructures in the southern portion have been removed.</p> <p>The rest of the site remains largely the same.</p> <p><u>Offsite:</u></p> <p>A wetland (Woodlands lake) is present immediately to the south-east.</p> <p>Walking trail east of the site was constructed.</p> <p>Commercial properties have been constructed in most lands to the west of the site.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>



ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>5</b>	<p><u>Onsite:</u></p> <p>The site comprises farmland, mainly used for cropping with some vacant land/open space. Governor Road is visible and appears to be an unsealed road.</p> <p><u>Offsite:</u></p> <p>Highly vegetated area was present to the north-east. The rest comprise farmlands and vacant land/open space.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Some ponds/dam were built in the north/north-east portion.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Some ponds/dams were backfilled but more ponds/dam were built in the southern side of existing dams (north-east of site)</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with the exception of construction of more ponds/dams in the west and walking trails built in the east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Majority of the ponds/dams north/north-east of the site appear to be dry or have been backfilled.</p> <p><u>Offsite:</u></p> <p>Majority of the ponds east of site appear to be dry or have been backfilled.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area to the west remains largely the same.</p> <p>Wetlands/lakes and parklands east of the site have been developed.</p> <p>A commercial property was constructed to the south-west</p>	<p><u>Onsite:</u></p> <p>The rest of the site remains largely the same.</p> <p>A rural/residential infrastructure appear to be built immediately to the south-east of Boundary Road.</p> <p><u>Offsite:</u></p> <p>A wetland (Woodlands lake) was built immediately to the north-east.</p> <p>Wetlands were also built immediately to the south-east and south-west.</p> <p>Further commercial developments to the north-west and south-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p> <p>Residential properties have been built to the south-east and more commercial developments to the north-west and south-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p> <p>More residential properties have been built to the south-east and more commercial developments to the north-west and south-west.</p>

ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>6</b>	<p><u>Onsite:</u></p> <p>The site comprises an unsealed road running east to west.</p> <p><u>Offsite:</u></p> <p>The surrounding site comprise farmlands and vacant land/open space.</p> <p>A rural property and vegetated area appears immediately to the central north.</p> <p>Mordialloc Creek is visible further south and running north-west to south-east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p> <p>More rural infrastructure built to the north-west and south-west. A dam/pond was built to the north-east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>Farm structures (e.g. greenhouses, nurseries) were built in the property in the central portion.</p> <p>A drain line that runs approximately north-south was built in the central portion. This drain line extends further south and connected to Mordialloc Creek.</p> <p>Boundary Road was built and commercial developments have commenced to the west.</p> <p>More dams/ponds were built to the north-east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>More commercial developments to the north-west.</p> <p>More dams/ponds/wetlands were built to the south-west.</p> <p>Majority of the ponds north-east of site appear to be dry or have been backfilled.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The rural property/farm immediately to the north was removed and majority of the land to the north/north-west have now been converted into commercial developments.</p> <p>Majority of the dams/ponds/wetlands in the south-west appears to be dry or have been backfilled.</p> <p>A commercial property was built in the south-east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>Commercial properties now occupy most of the land to the north/north-west. Wetlands/lakes have been built to the north-east and south-east.</p> <p>Residential properties occupy most of the land south of Mordialloc Creek.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with the exception of more commercial properties built immediately to the south.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with the exception of more commercial properties built immediately to the south.</p>

ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>7</b>	<p><u>Onsite:</u></p> <p>The site comprises vacant land/open space. Mordialloc Creek (runs approximately east-west) is visible to the south.</p> <p><u>Offsite:</u></p> <p>The surrounding land comprise vacant land/open space with some vegetated area immediately to the north-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same</p> <p>Wells Road and more rural residential properties were built to the south-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>Water bodies occupy most of the site.</p> <p><u>Offsite:</u></p> <p>Ponds/lakes were built immediately to the east and west.</p> <p>Residential properties occupy most of the land to the south and south-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>More residential properties were built to the south, south-west and north-east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with more residential properties built to the south, south-west and north-east.</p>
<b>8</b>	<p><u>Onsite:</u></p> <p>The site comprises vacant land/open space.</p> <p><u>Offsite:</u></p> <p>The surrounding land comprise vacant land/open space. Springvale Road visible to the south-east and Wells Road visible to the west. Some rural residential properties were present along Springvale Road and Wells Road.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same. Mornington Peninsula Freeway was built south-east of Springvale Road.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same. More roads were built south-west of the site and appears to be prepared for more development.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>Most of the land to the west and south-west have been occupied by residential properties. Large commercial complex was built immediately west of Mornington Peninsula Freeway.</p> <p>Water bodies have been built north of Mordialloc Creek.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with more residential properties built to the north-east and south/south-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>

ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>9</b>	<p><u>Onsite:</u></p> <p>The site comprises an unsealed road running north-east to south-west (Springvale Road) and north-west to south-east (Wells Road). Some rural residential properties present along Wells Road and Springvale Road.</p> <p><u>Offsite:</u></p> <p>The surrounding site comprises farmland and vacant land/open space.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same. Wells Road/Springvale Road intersection was upgraded.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same. Commercial developments underway to the north-east.</p>	<p><u>Onsite:</u></p> <p>Springvale Road was upgraded to dual carriageway.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same. Mornington Peninsula Freeway was built south-east of Springvale Road. More commercial developments to the east.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>More commercial developments to the north, east and south.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>Water bodies have been built north of Mordialloc Creek. Some residential properties built further north and to the west and south-west</p> <p>More commercial developments to the South, east and west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with more residential and/or commercial properties built.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with more residential and/or commercial properties built.</p>

ROAD SECTION	1951	1961/1962/1963/1966	1974	1981/1982/1985	1990/1991	2005	2009	2016
<b>10</b>	<p><u>Onsite:</u></p> <p>The site comprises farm lands.</p> <p><u>Offsite:</u></p> <p>The surrounding land comprises either farmland or vacant land/open space. Wells Road is visible to the west and parallel to the site. Springvale Road is visible to the north-east. Some rural residential properties were present along Wells Road and Springvale Road (immediately north of the site).</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same. Wells Road/Springvale Road intersection was upgraded. Some commercial properties were built to the north-east.</p>	<p><u>Onsite:</u></p> <p>A roadway (Mornington Peninsula Freeway) was built along the site.</p> <p><u>Offsite:</u></p> <p>More commercial development to the north, east and west.</p> <p>Residential properties were built further to the south-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>More commercial development to the north, east and west.</p> <p>More residential properties were built further to the west and south-west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>Most of the land to immediately to the west were now filled with commercial properties and residential properties further to the west.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with more residential and/or commercial properties built.</p>	<p><u>Onsite:</u></p> <p>The site remains largely the same.</p> <p><u>Offsite:</u></p> <p>The surrounding area remains largely the same with more residential and/or commercial properties built.</p>

### 3.2 Previous assessments

It is understood that several stages of environmental assessment and statutory environmental audit works have been completed for the property located at 370-418 Old Dandenong Road, Dingley Village, Vic 3172 (Din San landfill), a portion of which is located within the proposed Mordialloc Bypass (refer to attached figure in Appendix B). Soil, surface water and groundwater samples were analysed and environmental management plans were consequently implemented. Further details and a discussion on the works completed within this area of the site are provided in Section 4.6.

### 3.3 Summary of site history investigation

Based on the results of the review of historical information, the site appears to have been predominantly used for farming activities until the 1960s-1970s; when parts of the site and the surrounding land were converted into commercial/industrial uses in the northern portion; and waterway/drainage systems in the central to southern portion. The majority of historical commercial activities conducted in the northern portion of the site appear to be for quarrying and landfilling purposes. From the 1970s to present, the surrounding land has been developed further and now comprises a mixture of residential, commercial agricultural activities (including nurseries), open space/recreational, commercial/industrial facilities and roads.

Potentially contaminating historical activities have been identified to be present in areas surrounding the site and are discussed in further detail in Sections 4 and 5.

## 4 REGULATORY INFORMATION

### 4.1 EPA priority sites register

Priority Sites are sites for which the Environment Protection Authority (EPA) Victoria has issued a Clean-up Notice pursuant to Section 62A or a Pollution Abatement Notice (relevant to land and/or groundwater), pursuant to Section 31A or 31B of the Victorian Environment Protection Act 1970. Typically, priority sites are sites where identified pollution of land and/or groundwater may present an unacceptable risk to human health; or to the environment. EPA maintains the Priority Sites Register as a listing of all priority sites identified by the EPA as requiring clean up.

A search of the EPA Priority Sites Register was conducted in February 2017 (undertaken by Lotsearch). The search indicated that there is currently one landfill site registered as priority sites within Sections 1 and 2 of the sites road alignment. Details of this priority site are summarised in Table 4.1 below. Refer to Appendix B for search details.

**Table 4.1 Summary of EPA priority sites**

MUNICIPALITY	SUBURB	ADDRESS	ISSUE	NOTICE NUMBER
Kingston City Council	Dingley Village	370 Old Dandenong Road	Former landfill site. Requires ongoing management	90006969

### 4.2 Former EPA priority sites and other pollution notices

A search of the EPA Former Priority Sites Register was conducted in January 2017 (undertaken by Lotsearch). The search indicated that EPA former priority sites are listed and eleven pollution notices have been issued for businesses in the vicinity of the site. Table 4.2 provides a summary of the former EPA listed sites. Refer to Appendix B for search details.

The former EPA notices NO9888, NO9143, NO10317, 90006313, 90005004, 90004129, 90003832 and 90003831 (as detailed below) all relate to the same property located at 370-418 Old Dandenong Road, Dingley Village (i.e. former landfill). As indicated above, it is understood that the property is under an existing EPA directed notice and is the subject of environmental audit and soil remediation works.

**Table 4.2 Former EPA priority site and other pollution notice summary**

NOTICE NUMBER	NOTICE TYPE	COMPANY	ADDRESS	STATUS	POTENTIAL CONTAMINATION ISSUE	DATE ISSUED
NO2716	31A(1)	AGJ cartage Contractors P/L	Lot 2 Grange Road, Dingley	Legacy EPA database pollution notice	Unknown Sits within proposed site footprint	9/3/2001
NO9888	62(A)1	Ernest Smith Contractors P/L	370-418 Old Dandenong Rd, Dingley Village	Legacy EPA database pollution notice	Current landfill, requires assessment and/or clean up  Sits within the proposed site buffer zone and partially within the site boundary	10/10/2011

NOTICE NUMBER	NOTICE TYPE	COMPANY	ADDRESS	STATUS	POTENTIAL CONTAMINATION ISSUE	DATE ISSUED
NO9143	62(A)1	Ernest Smith Contractors P/L	370-418 Old Dandenong Rd, Dingley Village	Legacy EPA database pollution notice	Current landfill, requires on-going management  Sits within the proposed site buffer zone and partially within the site boundary	24/02/2011
NO10317	31A(1)	Ernest Smith Contractors P/L	370-418 Old Dandenong Rd, Dingley Village	Legacy EPA database pollution notice	Current landfill, requires on-going management  Sits within the proposed site buffer zone and partially within the site boundary	03/04/2012
90006313	Pollution Abatement Notice	Ernest Smith Contractors P/L	370 Old Dandenong Rd, Dingley Village	Previous pollution notice	Air quality contamination (legacy)  Sits within the proposed site buffer zone and partially within the site boundary	20/08/2015
90005004	Pollution Abatement Notice	Ernest Smith Contractors P/L	370 Old Dandenong Rd, Dingley Village	Previous pollution notice	Unknown  Sits within the proposed site buffer zone and partially within the site boundary	11/09/2014
90004129	Hydrogeological Assessment PAN	Ernest Smith Contractors P/L	370 Old Dandenong Rd, Dingley Village	Previous pollution notice	Liquid contamination (legacy)  Sits within the proposed site buffer zone and partially within the site boundary	25/09/2015
90003832	Previous Priority Notice, monitoring, rehab and aftercare PAN	Ernest Smith Contractors P/L	370 Old Dandenong Rd, Dingley Village	Previous priority notice	Former landfill, requires on-going management  Sits within the proposed site buffer zone and partially within the site boundary	27/11/2014



NOTICE NUMBER	NOTICE TYPE	COMPANY	ADDRESS	STATUS	POTENTIAL CONTAMINATION ISSUE	DATE ISSUED
90003831	Previous Priority Notice, Hydrogeological Assessment PAN	Ernest Smith Contractors P/L	370 Old Dandenong Rd, Dingley Village	Previous priority notice	Former landfill, requires on-going management  Sits within the proposed site buffer zone and partially within the site boundary	17/07/2014
NO1950	31A(1)	Stino Nominees P/L	Lot 1 Grange Road, Springvale South	Legacy EPA database pollution notice	Unknown  Sits within the proposed site buffer zone	04/04/1990
NO2825	31A(1)	Super Soil P/L	Lot 1 Grange Road, Springvale South	Legacy EPA database pollution notice	Unknown  Sits within the proposed site buffer zone	28/09/2001

### 4.3 EPA licenced activities

Two companies in the vicinity of the site (in Sections 1 and 2) were listed as EPA licenced activities. A summary is provided in Table 4.3 below.

**Table 4.3 Summary of EPA licenced activities**

TRANSACTION NUMBER	LICENCE NUMBER	COMPANY	ADDRESS	POTENTIALLY CONTAMINATING ACTIVITIES	STATUS
3005972	EA63780#6	Enviromix Pty Ltd	Lot 2 Grange Road, Dingley Village, Vic 3172	A07 Composting	Current
-	ES146#10	Ernest Smith Contractors Pty Ltd	370-418 Old Dandenong Road, Dingley Village, Vic 3172	A05 Landfills	Former

Both of the premises listed above were issued with former EPA notices as detailed in Table 4.2. Refer to Appendix B for further details. It is understood that the property located at Lot 2, Grange Road, Dingley Village, Victoria (currently occupied by Enviromix Pty Ltd) was formerly a sand quarry that was progressively landfilled during the early 1960s with both liquid and solid industrial waste. It is further understood that Industrial Waste Collection Pty Ltd were operating the waste disposal facility. The former sand quarry was completely filled by 1968. Refer to Figure 1, Appendix C for the depicted landfilled areas; and suspected landfills within close proximity of the site.

### 4.4 EPA works approval

No business that require EPA works approval exist within the site buffer.

### 4.5 Waste management facilities

#### 4.5.1 National waste management site database

A search of the national waste management site database identified two business in the project area (road Section 1) for Ernest Smith Contractors Pty Ltd and Vidotta that previously operated as landfills. A summary of the national waste management plan database is shown in Table 4.4 below.

**Table 4.4 Summary of the national waste and resource recovery facilities**

COMPANY	ADDRESS	CATEGORY	CURRENT/FORMER FACILITY	OWNER
Ernest Smith Contractors Pty Ltd	Tootal Road, Dingley Village, Vic 3172 (also referred to as 370-418 Old Dandenong Road, Dingley Village)	Landfill	Former	Kingston City Council
Vidotta	Corner Grange Road and Heatherton Road, Clayton South	Landfill	Former	Kingston City Council

The two properties listed above are understood to have operated as former landfills. The property listed for Total Road, Dingley Village is currently operating as a nursery (Din San nursery) and the property located on the Corner of Grange Road and Heatherton Road, Clayton South appears to have been capped and is currently vacant.

A copy of the national waste management site database search is provided in Appendix B (Section 1).

#### 4.5.2 Waste and resource recovery infrastructure plan facilities

A search of the state wide waste management database identified four business in the project area (road Section 1) that were operating as a waste resource and recovery facility. A summary of the waste and resource recovery infrastructure plan facility is shown in Table 4.5 below.

**Table 4.5 Summary of the state wide waste and resource recovery facilities**

COMPANY	ADDRESS	CATEGORY	SUB CATEGORY
Enviromix	Lot 2, Grange Road, Dingley Village, Vic 3172	Organics	Garden waste
Ernest Smith Contractors Pty Ltd	370-418 Old Dandenong Road, Dingley Village, Vic 3172	Landfill	Landfill
Transpacific Industries (Dingley Soils)	Lot 1, Grange Road, Dingley Village, Vic 3172	Organics	Garden waste
Transpacific Industries	Lot 1, Grange Road, Dingley Village, Vic 3172	Commercial & Industrial	C&I recovery

A copy of the state wide waste management site database search is provided in Appendix B.

#### 4.6 EPA prescribed industrial waste sites

Three EPA Prescribed industrial waste sites were reported within the site buffer (within road Section 1). A summary of the sites is listed in Table 4.6 below.

**Table 4.6 Summary of EPA prescribed industrial waste sites**

COMPANY	ADDRESS	TREATMENT / TRANSPORT DISPOSAL	
KS Environmental Pty Ltd	544 Boundary Road, Dingley Village, Vic 3172	No	Yes
Padget Pty Ltd	544-554 Boundary Road, Dingley Village, Vic 3172	No	Yes
Padget Pty Ltd (Dingley Village)	544-554 Boundary Road, Dingley Village, Vic 3172	No	Yes

A google search of the property address located in 544-554 Boundary Road, Dingley Village indicated that Eastern Liquid Services is a company owned by KS Environmental, that are involved in liquid waste collection, transport, recycling and disposal.

## 4.7 Environmental audit report search

The Environmental audit system was established in Victoria by the EPA as a means by which planning authorities, site owners, purchasers and others are provided with assurance regarding the condition of a property and its suitability for use, in the context of the site development.

Each audit completed under Section 53X of the Victorian Environment Protection Act 1970 (as amended) will be issued with either a certificate or statement of environmental audit that is then made publicly available. It is important to note that the list is not a register of all contaminated or remediated sites in Victoria. Rather, it is a list of sites where a statutory environmental audit has been completed. Additional nearby sites may currently be subject to a statutory environmental audit. However, the EPA list only includes completed environmental audits.

A search of environmental audits within a 150 m radius of the site identified three records of completed environmental audits. All of the completed audits relate to the former landfill site located at 370-418 Old Dandenong Road, Dingley Village, Victoria 3172. A summary of the audit sites is presented in Tables 4.7 to 4.9 below. A copy of the search results is provided within each Lotsearch report (i.e. Sections 1 to 10), provided Appendix B.

**Table 4.7** Nearby audit report search 1

REPORT	INFORMATION
<b>Din San Landfill, 370-418 Old Dandenong Road, Dingley Village, Vic 3172</b>	
CARMS No.	69419-2
Site background	Site was the former Din San Landfill located in Dingley Village. The Din San Landfill (owned by Ernest Smith Contractors Pty Ltd (ESC)) was licensed by EPA (waste discharge license number ES146) to receive solid inert waste. The landfill was unlined and does not have a leachate management or landfill gas (LFG) management system. Landfilling at the site ceased on 30 June 2012 and the license was surrendered to EPA in April 2013.
Audit background and outcome	<p>Section 53V environmental audit.</p> <p>An environmental audit of the risk of any possible harm or detriment to the environment. The Audit considers the March 2013 – March 2014 groundwater monitoring events as well as leachate monitoring at the centre of the former landfill cells. The audit also considered landfill gas (LFG) monitoring and surface emission monitoring. Surface water monitoring was not undertaken and could not be evaluated.</p> <p>A landfill operations risk assessment and monitoring program was prepared for the site. The Auditor's review of the program indicated that it was adequate to enable ESC and EPA to determine compliance with best practice environmental management, with some amendments recommended.</p> <p>Further monitoring and site management measures were necessary to reduce the risks to groundwater and the risks from LFG migration to an acceptable level. The risk to surface water also needed to be further investigated.</p> <p>Specifically, audit recommendations included:</p> <ul style="list-style-type: none"> <li>→ Site management measures as specified in the Landfill Best Practice Environmental Management (BPEM) for landfill caps.</li> <li>→ Install additional groundwater wells to the south and east of the site to ascertain the extent of the groundwater pollution.</li> <li>→ Stormwater drains to be visually inspected after significant rain events, and if possible, surface water in the drain should be monitored.</li> <li>→ Integrity of the landfill caps should be investigated and rectified where necessary.</li> <li>→ Install additional LFG bores in the south of the site, in order to measure the extent of LFG migration.</li> <li>→ The type of material contained in the subsurface of Cell 4B should be investigated to determine if any waste materials had been deposited within this section of the site. It is recommended that this cell should be included in the rehabilitation plan of the landfill, and may require capping.</li> </ul>

REPORT	INFORMATION
Completion date	30 June 2014.
Proximity to site	North-eastern boundary at its closest point. Parts of the former landfill falls within the road alignment (Section 1) and buffer zone.
Groundwater and leachate monitoring	<p>The results of the groundwater monitoring indicate that leachate originating from waste at the landfill is impacting on the protected beneficial uses of the Segment A1 groundwater at the site. Since all cells are unlined, and there is evidence of erosion of the landfill caps, there was potential for groundwater impacts to continue to occur in the future.</p> <p>Leachate mounding has been identified in all cells which can cause increased hydrostatic pressure and local alteration of the groundwater flow direction towards the south and east of the site (note: actual groundwater flow inferred to be to the south-west).</p>
Surface water monitoring	A shallow stormwater channel immediately to the west of the site may intersect the shallow groundwater aquifer, especially during significant rain events. This drain also accepts stormwater runoff from the site. It is therefore possible for contaminated groundwater or runoff to discharge to the stormwater channel, and possibly to nearby surface water bodies.
Landfill gas monitoring	<p>Elevated levels of LFG measured on the slopes, edges and corners of landfill Cells 1, 2, 3 and 4A. Furthermore, elevated methane concentrations have been measured in bores at the site near Cell 4B which was in an area not considered to have been landfilled. The elevated concentrations suggest that there is some organic material in the vicinity of these bores. <b>(Note: western boundary of Cells 3 and 4A fall along the sites proposed alignment and buffer zone, in road Section 1).</b></p> <p>Based on the results of the LFG monitoring conducted at the site and the landfill gas risk assessment for the audit, the risk to potential off-site receptors from the migration of methane has been assessed as being low to very low, except for one location (GB33) in the south of the site. <b>(Note: GB33 sits within the sites buffer zone).</b></p> <p>The CO<sub>2</sub> concentrations in most bores have decreased or remained at similar levels to those found in the previous monitoring period (December 2009 to March 2012); except for off-site soil gas bore GB29 to the north-west which has increased in the recent monitoring period.</p> <p>The CO<sub>2</sub> concentrations in most soil gas bores have remained at an elevated level and present low to moderate risks to potential off-site receptors, apart from in the south of Stage 4B, where the risks were assessed to be moderate to high. The extent of LFG migration to the west of the site has not been fully determined and should be investigated.</p>
CUTEP/GQRUZ	N/A

Table 4.8 Nearby audit report search 2

REPORT	INFORMATION
<b>Din San Landfill, 370-418 Old Dandenong Road, Dingley Village, Vic 3172</b>	
CARMS No.	69419-3
Site background	As above (Table 4.7)
Audit background and outcome	<p>Section 53V audit.</p> <p>An environmental audit of the risk of any possible harm or detriment to the environment. The Audit was undertaken during the 01 April 2014 – 01 April 2015 and includes supporting data from groundwater and LFG monitoring in bores, surface emissions, buildings, structures and underground services. Surface water monitoring was not undertaken and could not be evaluated.</p> <p>A landfill operations risk assessment and monitoring program was prepared for the site. The Auditor's review of the program indicated that it was adequate to enable the property owners (ESC) and EPA to determine compliance with best practice environmental management, with some amendments recommended.</p> <p>Further monitoring and site management measures were necessary to reduce the risks to groundwater and the risks from LFG migration to an acceptable level. The risk to surface water also needed to be further investigated.</p> <p>Specifically, audit recommendations included:</p> <ul style="list-style-type: none"> <li>→ Further assessment of the performance of the existing landfill caps should be performed and where appropriate, the performance of the caps improved so as to minimise the potential for leachate generation and impacts to groundwater.</li> <li>→ Increased frequency of LFG monitoring</li> <li>→ Delineation of LFG impacts in the eastern portion was considered warranted.</li> </ul>
Completion date	30 June 2015.
Proximity to site	North-eastern boundary at its closest point. Parts of the former landfill falls within road alignment (Section 1) and buffer zone.
Groundwater and leachate monitoring	<p>The results of the groundwater monitoring indicate that leachate from the former landfill impacted the protected beneficial uses of the site. The polluted groundwater in the western portion of the site was not indicated to extend any significant distance beyond Old Dandenong Road to the south of the site. However, the polluted groundwater does extend beneath a VicRoads freeway reserve located to the west of the site (<b>Note: this sits within the sites proposed road alignment and buffer zone</b>).</p> <p>Polluted groundwater emanating from the eastern portion of the site is likely to extend beyond Tootal Road. However, the extent of the plume has not been delineated. There is one registered stock and domestic groundwater well in close proximity to the site which should be monitored to confirm that it is not being impacted.</p> <p>Leachate mounding has been identified in all of the landfill cells.</p>
Landfill gas monitoring	<p>The results of the LFG monitoring demonstrate that elevated methane concentrations in the sub-surface are constrained to the site and are not migrating off-site at concentrations that would present an unacceptable risk to human health, the environment or buildings and structures. By comparison, carbon dioxide is indicated to be migrating beyond the physical extent of the landfill cells at distances of up to 150 m from the site.</p> <p>The risk of on-site impacts is considered to be high in the absence of effective management measures (for example a monitoring program and management plan). However, the risk to off-site receptors is considered to be very low in relation to methane, and moderate to high in relation to carbon dioxide. Notably, elevated carbon dioxide concentrations were measured in one LFG bore located in close proximity to residential dwellings to the east of the site, two of which include basements.</p> <p>It was noted that the LFG gas concentrations measured in buildings and structures and underground services have all been low and below the EPA Action Levels, apart from an elevated carbon dioxide concentration in a sewer pit, which is not significant.</p>
CUTEP/GQRUZ	N/A

Table 4.9 Nearby audit report search 3

REPORT	INFORMATION
<b>Din San Landfill, 370-418 Old Dandenong Road, Dingley Village, Vic 3172</b>	
CARMS No.	69419-4
Site background	As above (Table 4.7)
Audit background and outcome	<p>An environmental audit of the risk of any possible harm or detriment to the environment. The Audit was undertaken during the 01 March 2015 to 30 April 2016 and includes supporting data from groundwater and LFG monitoring in bores, surface emissions, buildings, structures and underground services. Surface water monitoring was not undertaken and could not be evaluated.</p> <p>A landfill operations risk assessment and monitoring program was prepared for the site. The Auditor's review of the program indicated that it was adequate to enable the property owners (ESC) and EPA to determine compliance with best practice environmental management, with some amendments recommended.</p> <p>Further monitoring and site management measures were necessary to reduce the risks to groundwater and the risks from LFG migration to an acceptable level. The risk to surface water also needed to be further investigated.</p> <p>Specifically, audit recommendations included:</p> <ul style="list-style-type: none"> <li>→ Ongoing monitoring required</li> <li>→ Consider installing additional groundwater wells to delineate plume</li> </ul>
Completion date	22 July 2016.
Proximity to site	North-eastern boundary at its closest point. Parts of the former landfill sit within the proposed road alignment (Section 1) and buffer zone.
Groundwater and leachate monitoring	<p>The results of the groundwater monitoring indicate that leachate from the former landfill impacted the protected beneficial uses of the site. Groundwater contaminant concentrations was comparable to previous monitoring rounds with the exception of groundwater well 124425A located south-east of the site.</p> <p>The polluted groundwater in the western portion of the site was not indicated to extend any significant distance beyond Old Dandenong Road to the south of the site. However, the polluted groundwater does extend beneath a VicRoads freeway reserve located to the west of the site (<b>Note: this sits within the sites proposed road alignment and buffer zone</b>).</p> <p>Impacted groundwater emanating from the eastern portion of the site is likely to extend beyond Tootal Road. However, the extent of the plume has not been delineated.</p> <p>Leachate mounding has been identified in all of the landfill cells, however more significant mounding was present in Stages 2 and 3. Assessment of performance of landfill caps and a hydrogeological assessment were undertaken in 2015. The leachate levels in 2015 were below allowable levels.</p>
Landfill gas monitoring	<p>The results of the LFG monitoring demonstrate that elevated methane concentrations in the sub-surface are constrained to the site and are not migrating off-site at concentrations that would present an unacceptable risk to human health, the environment or buildings and structures. By comparison, carbon dioxide is indicated to be migrating beyond the physical extent of the landfill cells at distances of up to 150 m from the site.</p> <p>The risk to offsite receptors is considered to be low in terms of methane and moderate in relation to carbon dioxide. It was noted that LFG gas concentrations measured in buildings and structures and underground services offsite have all been low and below the EPA Action Levels.</p>
CUTEP/GQRUZ	N/A



## 5 POTENTIAL SOURCES OF CONTAMINATION

Industrial and commercial properties surrounding the site have the potential to pose a source of contamination. A desktop search of historical and current business activities identified several properties that were indicated for use as landfill, waste processing and recycling facilities, nurseries and other agricultural facilities, motor garage, engineers, service station and product manufacturers and distributors within the vicinity of the site (i.e. 150 m buffer zone). The historical businesses were found via a search of the 1980 and 1991 business directories. Refer to Appendix B for search details.

A search of the current businesses within the vicinity of the site (i.e. 150 m buffer zone) was conducted via a search of google maps and validated by the site inspection. A search for current businesses identified five properties of interest within road Sections 1 and 2 of the proposed roadway. These are:

- 370-418 Old Dandenong Rd, Dingley Village operated as a former landfill. The site is currently a nursery (Din San nursery).
- Lot 1 Grange Road, Dingley was a former sand quarry that was landfilled and is now in use as a waste recovery facility for garden waste.
- Lot 2 Grange Road, Dingley was a former sand quarry that was landfilled during the early 1960s. The property is now used as a waste recovery facility for garden waste and soil composting (i.e. Enviromix Pty Ltd).
- Corner Grange Road and Heatherton Road, Clayton South operated as a former landfill and is understood to currently be vacant land.
- 544-545 Boundary Road, Dingley Village is currently operating as a liquid waste collection and transport facility.

A summary of the surrounding businesses, is provided in Table 5.1.below.

**Table 5.1 Summary of potential sources of contamination**

ADDRESS	PROPERTY USE	DISTANCE (m)
<b>Historical</b>		
2 Junction Road, Heatherton	Builders and allied trades	Onsite – 0
572 Heatherton Road, Clayton South	Nursery suppliers	Offsite – 32
622 Heatherton Road, Clayton South	Motor spare parts and accessory manufacturers and/or wholesalers; motor panel beaters; boot and shoe polish manufacturers; cosmetic manufacturers	Offsite – 148
Heatherton Road, Clayton South	Seeds and nursery suppliers	Offsite – 149
Heatherton Road, Clayton South	Wholesale florists	Offsite – 149
Centre Dandenong Rd, Dingley Village 3172	Motor garages and service stations (BP Dingley Village)	Onsite – 0
Centre Dandenong Rd, Dingley Village 3172	Motor garages and service stations (Mobil Omoley service centre)	Onsite – 0
Centre Dandenong Rd, Dingley Village 3172	Motor garages and service stations (Mobil service centre)	Onsite – 0
Centre Dandenong Rd, Dingley	Motor garages and service stations (Morris motor service)	Onsite – 0
9/2 Garden Byde, Dingley 3172	Clothing manufacturers and wholesalers	Offsite – 27

ADDRESS	PROPERTY USE	DISTANCE (m)
122 Garden Blade, Dingley 3172	Boring and drilling plant/equipment manufacturers and/or distributors	Offsite – 27
Tootal Rd, Dingley 3172	Dairy	Offsite – 33
1 Chestnut Ct, Dingley 3172	Garden supplies/equipment manufacturers and/or distributors	Offsite – 39
12 Plane Tree Avenue, Dingley 3172	Motor car manufacturers and/or importers	Offsite – 55
10 Plane Tree Avenue, Dingley 3172	Printers supply and services	Offsite – 56
26 Garden Blvd., Dingley 3172	Paint anti-corrosive and protective coating manufacturers and/or distributors; plastic manufacturers/suppliers; ceramic manufacturers/suppliers	Offsite – 60
2 Holly Drive, Dingley 3172	Kitchenware/holloware manufacturers and/or distributors	Offsite – 62
8 Plane Tree Avenue, Dingley 3172	Manufacturers agents	Offsite – 62
5 Fir St., Dingley 3172	X-ray apparatus manufacturers and/or distributors	Offsite – 63
30 Garden Blvd., Dingley 3172	Chemical manufacturers and/or importers and/or distributors	Offsite – 65
24 Garden Blvd., North Dingley 3172	Air-conditioning equipment and parts manufacturers and/or distributors/sales/service	Offsite – 85
1 Fir St., Dingley 3172	Essential oil manufacturers and/or distributors; Chemical manufacturers and/or distributors	Offsite – 63
22 Garden Blvd., Dingley 3172	Caterer supplier	Offsite – 89
2 Plane Tree Avenue, Dingley 3172	Taxi truck service	Offsite – 90
20 Garden Blvd., Dingley 3172	Tools/tungsten carbide manufacturers and/or distributors; engineers supplies; engineers – mining	Offsite – 92
Unit 1 Business Centre, 14 Garden Blvd., Dingley 3172	Pump and pumping equipment manufacturers and/or distributors; mining machinery/equipment manufacturers and/or importers and/or distributors	Offsite – 93
62 Tarnard Drive, Braeside 3195	Tank/tank stand manufacturers and/or distributors;	Offsite – 32
51 Redwood Drive, Dingley 3172	tube metals/tube benders; steel fabricators	Offsite – 46
65 Redwood Drive, Dingley 3172	ventilating equipment/air-conditioner/manhole covers/heating systems and equipment manufacturers and/or distributors	Offsite – 51
95 Redwood Drive, Dingley 3172	Motor accessories/motor electrical equipment manufacturers and/or distributors	Offsite – 58
407 Lower Dandenong Road, Dingley 3172	Bottle cap seals/corks manufacturers and/or distributors	Offsite – 58
60 Tarnard Drive, Braeside 3195	Packaging materials/plastic bags manufacturers and/or distributors	Offsite – 65
414 Lower Dandenong Road, Dingley 3172	Hardware manufacturers and/or distributors	Offsite – 65
43 Redwood Drive, Dingley 3172	Plastic moulders	Offsite – 69
Factory 5/9 Bell Gr Braeside 3195	Electroplaters	Offsite – 70
Factory 4/9 Bell Gr Braeside 3195	Furniture removalist	Offsite – 70



ADDRESS	PROPERTY USE	DISTANCE (m)
Factory 5/9 Bell Gr Braeside 3195	Computer flowing/partition manufacturers and/or distributors	Offsite – 70
Factory 2/11 Bell Gr Braeside 3195	Engineers – machining to trade; machine tools reconditioners; Engineers – manufacturing	Offsite – 73
Factory 7/11 Bell Gr Braeside 3195	Go Kart manufacturers and/or distributors	Offsite – 73
Factory 8/11 Bell Gr Braeside 3195	Die and press toolmakers; plastic/moulders manufacturers and/or distributors	Offsite – 73
Factory 3/11 Bell Gr Braeside 3195	Boat launch and/or yacht builders; blind manufacturers and/or distributors	Offsite – 73
Factory 5/11 Bell Gr Braeside 3195	Motor engine reconditioners; motor cycle accessories and spare parts manufacturers and/or importers and/or distributors	Offsite – 73
4 Garden Blvd., Dingley 3172	Concrete pre-cast	Offsite – 77
403 Lower Dandenong Road, Dingley 3172	Plastic bottle/containers manufacturers and/or distributors; plastic moulders	Offsite – 82
58 Tarnard Drive, Braeside 3195	Carport/garage/awning manufacturers and/or distributors	Offsite – 97
Factory 19/2 Garden Blvd., Dingley 3172	Public address system manufacturers and/or installers; electrical contractors	Offsite – 103
Factory 22/2 Garden Blvd., Dingley 3172	Die and press toolmaker	Offsite – 103
395 Lower Dandenong Road, Dingley 3172	Builders supplier; timber agents/brokers/importers/exporters	Offsite – 134
42 Redwood Drive, Dingley 3172	Shop ad office fitters	Offsite – 148
Governor Road, Braeside 3195	Steel merchants	Onsite – 0
243 Governor Road, Braeside 3195	Die and press toolmakers	Offsite – 25
241 Governor Road, Braeside 3195	Belt manufacturers and/or distributors	Offsite – 26
245 Governor Road, Braeside 3195	Motor wreckers	Offsite – 38
1 Crawford St, Mordialloc 3195	Die and press toolmakers	Offsite – 56
Factory 2/1 Crawford St, Mordialloc 3195	Die and press toolmakers; machinery and parts manufacturers and/or distributors	Offsite – 67
237 Governor Road, Braeside 3195	Trailer/trailer equipment/motor truck accessories and spare parts manufacturers and/or distributors	Offsite – 73
3/3 Crawford St, Mordialloc 3195	Builders and/or building contractor	Offsite – 80
74 Industrial Drive, Braeside 3195	Laboratory apparatus and/or equipment/hospital equipment and/or supplies/scientific instruments manufacturers and/or importers and/or distributors	Offsite – 149

ADDRESS	PROPERTY USE	DISTANCE (m)
<b>Current</b>		
580 Heatherton Road, Clayton South 3169	Motor garages/mechanic	Onsite – 0
Corner Grange Road and Heatherton Road, Clayton South 3169	Waste management facility (Kingston Council/Vidotta landfill)	Onsite – 0
544-554 Boundary Road, Dingley Village, 3172	Liquid Waste Collection, Transport, Recycling and Disposal (Eastern Liquid/KS Environmental)	Onsite – 0
2 Grange Road, Dingley Village, 3172	Waste management facility – garden waste composting (Enviromix)- formerly operated as a landfill owned by Industrial Waste Collection Pty Ltd.	Onsite – 0
1 Grange Road, Dingley Village, 3172	Waste management facility – garden waste composting and commercial/industrial waste recovery (Transpacific Industries)	Onsite – 0
1 Grange Road, Dingley Village, 3172	Soil yard (Monk wholesale soils and quarry products)	Onsite – 0
370 – 418 Old Dandenong Road, Dingley Village, 3172	Former Din san Landfill and currently operates as the Din San Nursery	Onsite – 0
260 Centre Dandenong Road, Dingley Village, 3172	Mechanic (Dingley Village Mechanical Services)	Onsite – 0
262 Centre Dandenong Road, Dingley Village, 3172	Brick supplier (Uneeda Bricks)	Onsite – 0
3 Chestnut Court, Dingley Village, 3172	Air-conditioning mechanics (Ellis Air Conditioning)	Onsite – 0
42-44 Garden Boulevard, Dingley Village, 3172	Commercial spaces sales and distribution of (but not limited to) auto parts, leather crafts, cutting tools, forensic science instruments, door fittings, plastic processor	Onsite – 0 up to 100 m offsite
34-40 Garden Boulevard, Dingley Village, 3172	Engineer (Zinfra Group); air conditioning manufacturer and/or distributor (AHIC Australia)	Onsite – 0
30-32 Garden Boulevard, Dingley Village, 3172	Engineering supplies – plastics and thermoplastics (Dotmar Industries)	Onsite – 0
26 Garden Boulevard, Dingley Village, 3172	Engineering and industrial equipment supplier (ADM Instrumental Engineering)	Onsite – 0
22-24 Garden Boulevard, Dingley Village, 3172	Commercial spaces including sign writers, chocolate makers,	Onsite – 0 up to 100 m offsite
6 Garden Boulevard, Dingley Village, 3172	Forklift dealer (Powerlift Australia Pty Ltd)	Onsite – 0
4 Garden Boulevard, Dingley Village, 3172	Engineering fabrication and machining (TRA Engineering Pty Ltd)	Onsite – 0
2/2 Garden Boulevard, Dingley Village, 3172	Mechanics/car repair shop (Redwood Motors)	Onsite – 0
3/2 Garden Boulevard, Dingley Village, 3172	Mechanics/car repair shop/transmission shop (Speedy Autos)	Onsite – 0
12/2 Garden Boulevard, Dingley Village, 3172	Auto parts store	Onsite – 0
43 Redwood Drive, Dingley Village, 3172	Warehouse and logistics (Bikecorp)	Onsite – 0

ADDRESS	PROPERTY USE	DISTANCE (m)
51 Redwood Drive, Dingley Village, 3172	Food products supplier (Timstock Trading)	Onsite – 0
59-63 Redwood Drive, Dingley Village, 3172	Engineering - supply, service and project management of marine, fire, life support and gas control equipment	Onsite – 0
65 Redwood Drive, Dingley Village, 3172	Engineering (mechanical products) manufacturing and/or distribution (Stabilus Pty Ltd)	Onsite – 0
99 Redwood Drive, Dingley Village, 3172	Engineering – air management solutions (Holyoake)	Onsite – 0
1/7 Bell Grove, Braeside 3195	Chemical manufacturing (Tasman Chemicals)	Onsite – 0
59 Tarnard Drive, Braeside 3195	Auto parts store (Dai Auto)	Onsite – 0
31-41 Woodlands Drive, Braeside 3195	Stairs/staircase builder	Onsite – 0
49-55 Woodlands Drive, Braeside 3195	Building materials supplies (Unimin)	Onsite – 0
63-73 Woodlands Drive, Braeside 3195	Packaging material supply and distribution (Colorpak)	Onsite – 0
101 Woodlands Drive, Braeside 3195	Power plant equipment supplier (Aggreko)	Onsite – 0
7 Phoenix Court, Braeside 3195	Milk and milk products producer and/or distributor (Camperdown Dairy)	Onsite – 0
8 Phoenix Court, Braeside 3195	Engineering – flow control manufacturer and/or distributor (Bray)	Onsite – 0
25-27 Park Way, Braeside 3195	Laundry services – industrial scale, potentially includes dry cleaning (Princes Laundry)	Onsite – 0
29-31 Park Way, Braeside 3195	Manufacturers and suppliers of commercial textile products	Onsite – 0
8 Brady Close, Braeside 3195	Supplier of plastic, lighting, print and sign industries (Australian Sheet Trader)	Onsite – 0
5 Bate Drive, Braeside 3195	Water tank manufacturer and/or distributor (Kingston water tanks)	Onsite – 0
Corner Wells Road and Edithvale Road, Aspendale 3195	Service station (7-Eleven)	Onsite – 0

Notes:

- (1) On site indicates a business is located along the site buffer zone.

Chemical spills and leakages into the sub-surface are the most likely exposure pathways of contamination from the businesses listed within the vicinity of the site. In addition, landfill gases/vapours and fugitive dust emissions comprising contaminated soils from the identified nearby businesses have a potential to impact surface soils along the alignment (i.e. road Sections 1 and 2). However, the risk from contaminated dusts is considered to be low given the open space setting. Existing and former landfills, mechanical workshops, chemical/plastic manufacturers and/or service stations are considered to be the most likely sources of potential contamination within the area.

The former Din San Landfill (occupied currently as a nursery) that is located between centre Dandenong Road and Dingley Bypass, Dingley Village has known landfill gas, groundwater and surface water contamination present. A portion of the Din San landfill extends into a portion of the site's southern boundary. Refer Appendix C for a depiction of the site boundary in reference to former landfills in the area.

The property currently occupied by Enviromix for soil processing/compositing works (2 Grange Road) was previously landfilled by Industrial Waste Collection Pty Ltd. It is understood that both liquid and solid industrial wastes were accepted during the early 1960s; with the former quarry being completely filled by 1968.

Should there be a future requirement to excavate soils within the identified areas; and thereby potentially exposing contaminated sub-surface soils and surface water and/or shallow groundwater, a prior review of any proposed construction activities would need to be undertaken, to ensure potential human health and environmental risks are mitigated and managed accordingly. The potential for landfill gas migration should also be investigated and managed to mitigate risks.

## 5.1 Potential sources and associated chemicals of potential concern (COPC)

Based on the identified current and historical surrounding site uses, several potentially contaminating activities were identified to exist. The potentially contaminating activities and associated chemicals of potential concern (COPC) are summarised as Table 5.2 below.

**Table 5.2 Potentially nearby contaminating activities and associated COPCs**

ACTIVITY/ITEM	POTENTIALLY CONTAMINATING ACTIVITY	COPC
Former and current landfill(s) and/or waste recycling facilities – along the proposed road alignment and site buffer zone	<ul style="list-style-type: none"> <li>→ Storage of landfill waste which results in generation of landfill gases</li> <li>→ Potential migration of leachate in surface water and/or groundwater</li> </ul>	<ul style="list-style-type: none"> <li>→ Landfill gas (methane, carbon dioxide, carbon monoxide, nitrogen, hydrogen sulfide)</li> <li>→ Leachate including <ul style="list-style-type: none"> <li>▪ total petroleum hydrocarbons (TPHs)</li> <li>▪ Polycyclic aromatic hydrocarbons (PAHs)</li> <li>▪ volatile organic carbons (VOCs)</li> <li>▪ cyanide</li> <li>▪ ammonia</li> <li>▪ sulphates/sulphides</li> <li>▪ metals</li> <li>▪ organic acids</li> </ul> </li> <li>→ E-coli</li> </ul>
Former/current motor mechanics – located within 150 m from site	<ul style="list-style-type: none"> <li>→ Workshop to undertake maintenance of machineries</li> <li>→ Oils, solvents, lubricants and fuel spills.</li> <li>→ Storage of fuels/solvents – possibly underground</li> </ul>	<ul style="list-style-type: none"> <li>→ Petroleum hydrocarbons including TPHs, monocyclic aromatic hydrocarbons (MAHs), benzene, toluene, ethylbenzene and xylenes (BTEX)</li> <li>→ Polycyclic aromatic hydrocarbons (PAHs) including naphthalene</li> <li>→ Phenols</li> <li>→ Metals</li> </ul>
Former/current service stations – located within 150 m from site	<ul style="list-style-type: none"> <li>→ Underground fuel infrastructure and storage of fuels</li> <li>→ Fuel/oil/solvent spills and leaks</li> </ul>	<ul style="list-style-type: none"> <li>→ Petroleum hydrocarbons (TPH, MAHs and BTEX)</li> <li>→ PAHs including naphthalene</li> <li>→ Phenols</li> <li>→ Metals</li> </ul>

ACTIVITY/ITEM	POTENTIALLY CONTAMINATING ACTIVITY	COPC
Former/current engineering and manufacturing facilities – located within 150 m from site	<ul style="list-style-type: none"> <li>→ Workshop to undertake maintenance of machineries</li> <li>→ Oils, solvents, lubricants and fuel spills.</li> <li>→ Storage of fuels/solvents – possibly underground</li> </ul>	<ul style="list-style-type: none"> <li>→ Solvents including a range of volatile organic compounds (VOCs)</li> <li>→ BTEX</li> <li>→ PAHs</li> <li>→ TPH</li> <li>→ Phenols</li> <li>→ Metals</li> </ul>
Former/current chemical manufacturing facilities – located within 150 m from site	<ul style="list-style-type: none"> <li>→ Potential bulk storage of chemicals - possibly underground and/or aboveground.</li> </ul>	<ul style="list-style-type: none"> <li>→ Solvents including a range of volatile organic compounds (VOCs)</li> <li>→ BTEX</li> <li>→ PAHs</li> <li>→ TPH</li> <li>→ Phenols</li> <li>→ Metals</li> </ul>
Nurseries and garden supply – located within 150 m from site	<ul style="list-style-type: none"> <li>→ Potential bulk storage and application of chemicals such as pesticides and herbicides</li> </ul>	<ul style="list-style-type: none"> <li>→ Organochlorine and organophosphate pesticides (OCPs and OPPs)</li> <li>→ Herbicides</li> <li>→ Metals and metalloids</li> </ul>
Agricultural land– grazing and cropping (former uses)	<ul style="list-style-type: none"> <li>→ Potential application of chemicals such as pesticides and herbicides</li> <li>→ Potential presence of sheep dips</li> </ul>	<ul style="list-style-type: none"> <li>→ Organochlorine and organophosphate pesticides (OCPs and OPPs)</li> <li>→ Herbicides</li> <li>→ Metals and metalloids</li> </ul>
Construction of roadway – in parts of the proposed roadway	<ul style="list-style-type: none"> <li>→ Importation of fill for use as building material. Specifically for use as a foundation for embankments and for construction of roads.</li> <li>→ Introduction of asbestos containing materials (ACM) if present in fill</li> </ul>	<ul style="list-style-type: none"> <li>→ ACM</li> <li>→ Metals</li> <li>→ PAHs</li> </ul>

Of the above list, it is considered that the key contaminants of concern derived from the surrounding historical/current land uses include landfill gases, inorganics (including ammonia, sulphides, nitrates), pesticides and herbicides (namely: OCPs/OPPs), metals, petroleum hydrocarbons and volatile hydrocarbons. There is also a potential for presence of aesthetic impacts (e.g. odours) within the vicinity of the site, where odours emanating from the landfill are not managed appropriately.

## 5.2 Potential exposure pathways

The anticipated primary transport media for the migration of contaminants identified were:

- inhalation of dusts, vapours and/or landfill gases
- dermal contact and ingestion of soil
- lateral migration of dissolved phase hydrocarbons within the groundwater, typically in the direction of the local hydraulic gradient expected to be to the south/south-east/south-west (in general) based on the site's topography and expected regional groundwater flow
- surface run-off and entry into stormwater drainage system(s) in the event of subsurface spillage
- migration of landfill gases and/or vapours through soils, underground service trenches and/or pits and beneath building slabs in the event of subsurface leakages.
- odour emissions from the existing landfill located within the proposed road alignment.

Of the potential exposure pathways identified, the migration of fugitive dust emissions is considered to be the primary exposure pathway for contaminants to impact surface soils along the road alignment.

During construction of the road upgrades, potential exposure may occur (should contaminated fill material be present under the existing land area that will house the proposed road extension); via direct contact pathways (including soil ingestion and dermal contact); as well as the inhalation of dust particulates.

In addition, the migration of landfill gases from surrounding landfills in the area, into any shallow trench excavations along the road alignment during the construction phase is also considered a potential exposure pathway for construction workers. It is considered that an assessment of landfill gases, the potential generation of leachate and impacted groundwater should be investigated prior to any detailed design being undertaken for the site. Any required disposal of shallow groundwater and/or surface water during the construction phase should be managed accordingly in compliance with Melbourne Water and EPA Victoria requirements. Refer Appendix C for the locations of former landfill(s) in reference to the proposed site boundary.

### 5.3 Potential receptors of concern

Identified receptors include:

- on-site construction and maintenance/utility workers during the planned road upgrade works
- future residential and/or commercial/industrial occupants located along the roadway
- existing off-site residential and commercial/industrial occupants
- users of groundwater abstraction bores (on-site and off-site)
- native vegetation.

There is one groundwater bore located within road Section 9 of the proposed road alignment (Mordialloc Bypass) which is indicated to be in use for extractive purposes (i.e. domestic). Potential extractive uses of groundwater were also identified in the immediate vicinity of the site (i.e. within 2 km) which includes stock watering, domestic, agricultural industries, dairy and irrigation purposes.

There are numerous surface water bodies present within the site which includes the Woodlands Wetlands Lakes, Waterways Lakes and Lagoons and Mordialloc Creek which are maintenance of ecosystem receptors that require protection. The identified surface water receptors are all located within the southeast portion of the site.

A potential risk is considered to exist when a source-pathway-receptor linkage is identified.



## 6 CONCLUSIONS

A preliminary site investigation (PSI) was undertaken for the Mordialloc Bypass project, from Springvale Road, Aspendale Gardens to the newly constructed Dingley Bypass, Dingley Village, Victoria (the site).

The results of the PSI indicated that the site appears to have been predominantly used for agricultural purposes until the 1960s-1970s. Portions of the site and the surrounding land were then converted into commercial/industrial uses in the northern portion. Waterway/drainage systems are present in the central to southern portions. The majority of the historical commercial activities undertaken in the northern portion were for quarrying and landfilling. From the 1970s to present, the surrounding land was further developed and currently comprises a mixture of commercial/industrial facilities, residential, commercial agricultural activities (including nurseries and soil processing facilities), open space/recreational uses and roads.

The site currently forms the proposed Mordialloc Bypass alignment and is zoned as a mixture of:

- Road Zone – Category 1 (RDZ1)
- Road Zone – Category 2 (RDZ2)
- Commercial 2 Zone (C2Z)
- Commonwealth Land Not Controlled by Planning Scheme (CA)
- General Residential Zone – Schedule 3 (GRZ3)
- Green Wedge Zone (GWZ)
- Green Wedge Zone – Schedule 1 (GWZ1)
- Green Wedge Zone – Schedule 2 (GWZ2)
- Industrial 1 Zone (IN1Z)
- Public Park and Recreation Zone (PPRZ)
- Public Use Zone – Service & Utility (PUZ1)
- Public Use Zone – Other Public Use (PUZ7)
- Urban Floodway Zone (UFZ).

The site has planning overlays in various sections of the proposed road alignment and within buffer zones under the Casey Council Planning Scheme which included the following:

- Design and Development Overlay (DDO4, DDO5, DDO6)
- Environmental Significance Overlay (ESO7, ESO8)
- Heritage Overlay (HO3, HO104)
- Incorporated Planning Overlay (IPO2, IPO3)
- Land Subject to Inundation Overlay (LSIO)
- Public Acquisition Overlay (PAO1, PAO2)
- Special Buildings Overlay (SBO).

The site is underlain by Tertiary to Quaternary inland deposits (Qd1), swamp lake deposits (Qm1) of the Pleistocene to Holocene epochs, coastal lagoon deposits (Qg) of the Holocene epochs, and coastal dune deposits (Qdl1) of the Holocene epochs.

A review of the EPA Victoria Priority Sites register indicated that there is one nearby business located at 370-418 Old Dandenong Rd, Dingley Village, which is a former landfill listed as EPA Priority Site (currently operates as the Din San nursery). It is understood that the property is also under an existing current and former EPA directed notice and was the subject of an environmental audit and remediation works. In addition, there were two sites in the vicinity of this property (Lot 1 Grange Road and Lot 2 Grange Road, Dingley, Vic) that were formerly listed as EPA Priority Sites.

A search of the state and national waste management databases identified several properties that have operated as former landfills, garden waste recovery facility and/or commercial/industrial waste recovery centres. A property along the proposed road buffer located at 544-545 Boundary Road, Dingley Village, was listed as a transporter of liquid wastes. The property was registered as an EPA Prescribed Industrial Waste site.

Potentially nearby (historical/current) contaminating activities were identified during the desktop study. This included:

- former landfill(s) and filled in sand quarries located approximately 0 m from site, within road Sections 1 and 2
- waste recycling facilities located within 150 m of the site, within road Sections 1 and 2
- service stations located within 150 m of the site
- chemical handling and/or manufacturing companies located within 150 m of the site
- agricultural land uses including cropping, grazing and commercial nurseries
- fill material that may have been imported during the backfilling of former landfills and sand quarries located within the footprint of the proposed road design; and/or any raising of land that occurred in the general area, due to extensive historical sand quarrying activities that occurred.

From the identified potentially contaminating activities, it is considered that the key contaminants of concern derived from current and/or historical uses located along the proposed Mordialloc Bypass (the site) or in the vicinity of the site are:

- landfill gases (including methane, carbon dioxide, carbon monoxide, nitrogen and hydrogen sulphide) and leachate (including TPH, PAH, VOCs, cyanide, ammonia, nitrates/nitrites, sulphates/sulphides, metals, organic acids, E-coli)
- petroleum hydrocarbons (TPH, MAHs, BTEX and PAHs)
- pesticides and herbicides (OCPs/OPPs)
- metals and metalloids
- ACM.

Based on a review of the available current and site history data, WSP concludes the following:

- The potential for contamination to be present within and in the vicinity of the site as a result of past/present land use activities is considered plausible, based on the presence of former landfills and other commercial/industrial properties located within the footprint of the proposed road design and adjacent to the site's boundary. The former landfills were likely filled with both liquid and solid industrial waste from unknown sources.
- Native vegetation occurs within the proposed roadway.
- Cultural heritage areas of importance have been flagged in two areas within the site boundary.



## 7 RECOMMENDATIONS

It is recommended that an intrusive soil assessment be undertaken prior to the planned road upgrade works, to enable any potential human health and/or environmental risk to be assessed and managed accordingly. A health, environment, safety and/or construction plan (or similar) should be developed to manage the works in areas identified to have potential contamination present (following the intrusive soil assessment).

In addition to the above it is also recommended that some baseline data is collected in relation to landfill gases, leachate and groundwater in the areas identified to have former landfills and/or landfilling activity located within the proposed road footprint (i.e. 2 Grange Road, Dingley).

## 8 REFERENCES

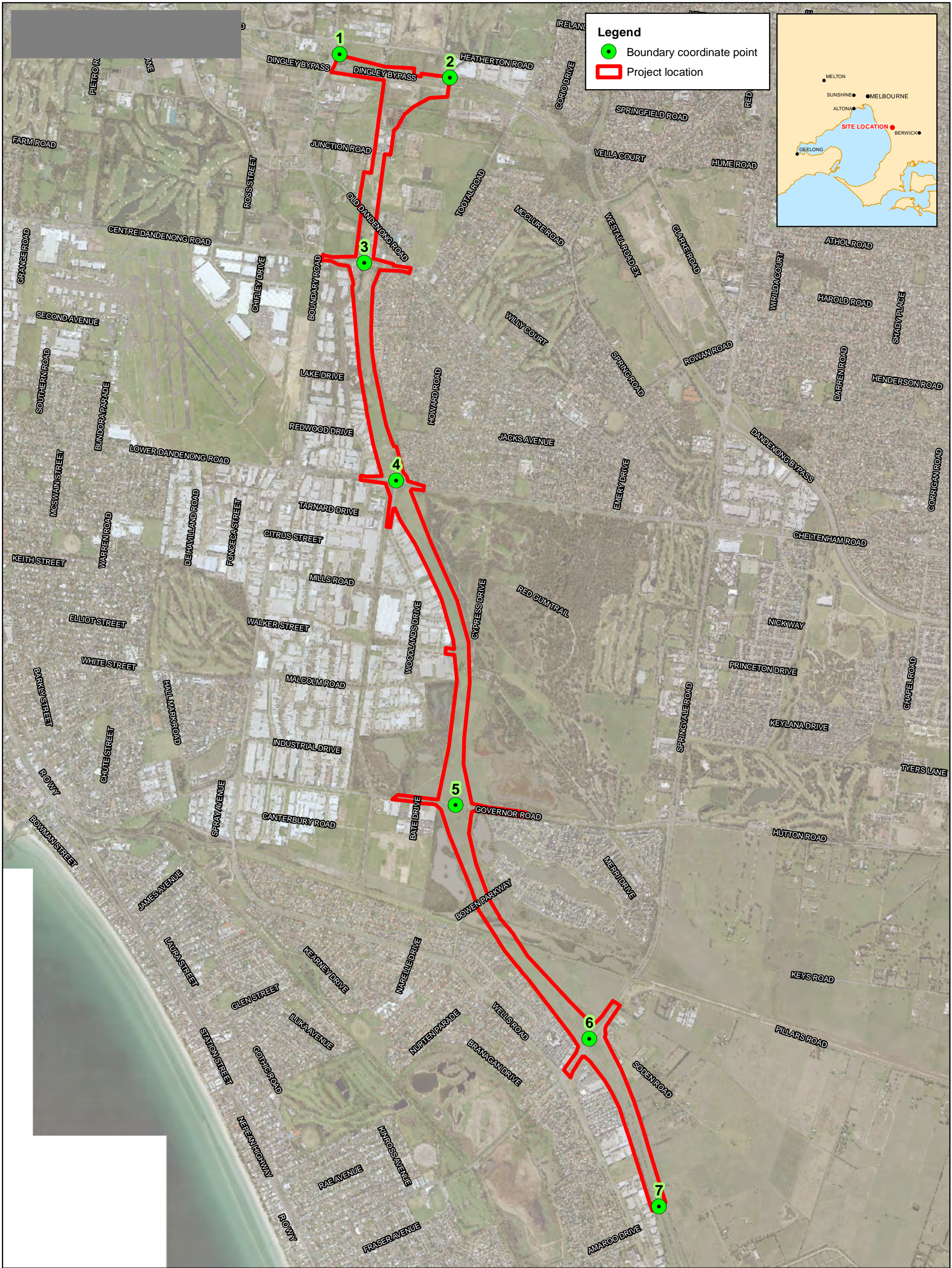
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# Appendix A

## **FIGURES**

PROJECT AREA AND SITE BOUNDARY  
PLANNING OVERLAY MAPS  
ZONING OVERLAY MAPS





Legend

Boundary coordinate point

Project location

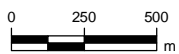
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Author: MAB



Date: 6/06/2017

Approved by: -



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Coordinate system: GDA 1994 MGA Zone 55

Scale ratio correct when printed at A3



Engineering and Technical Services  
for Mordialloc Bypass

Project location overview coordinates

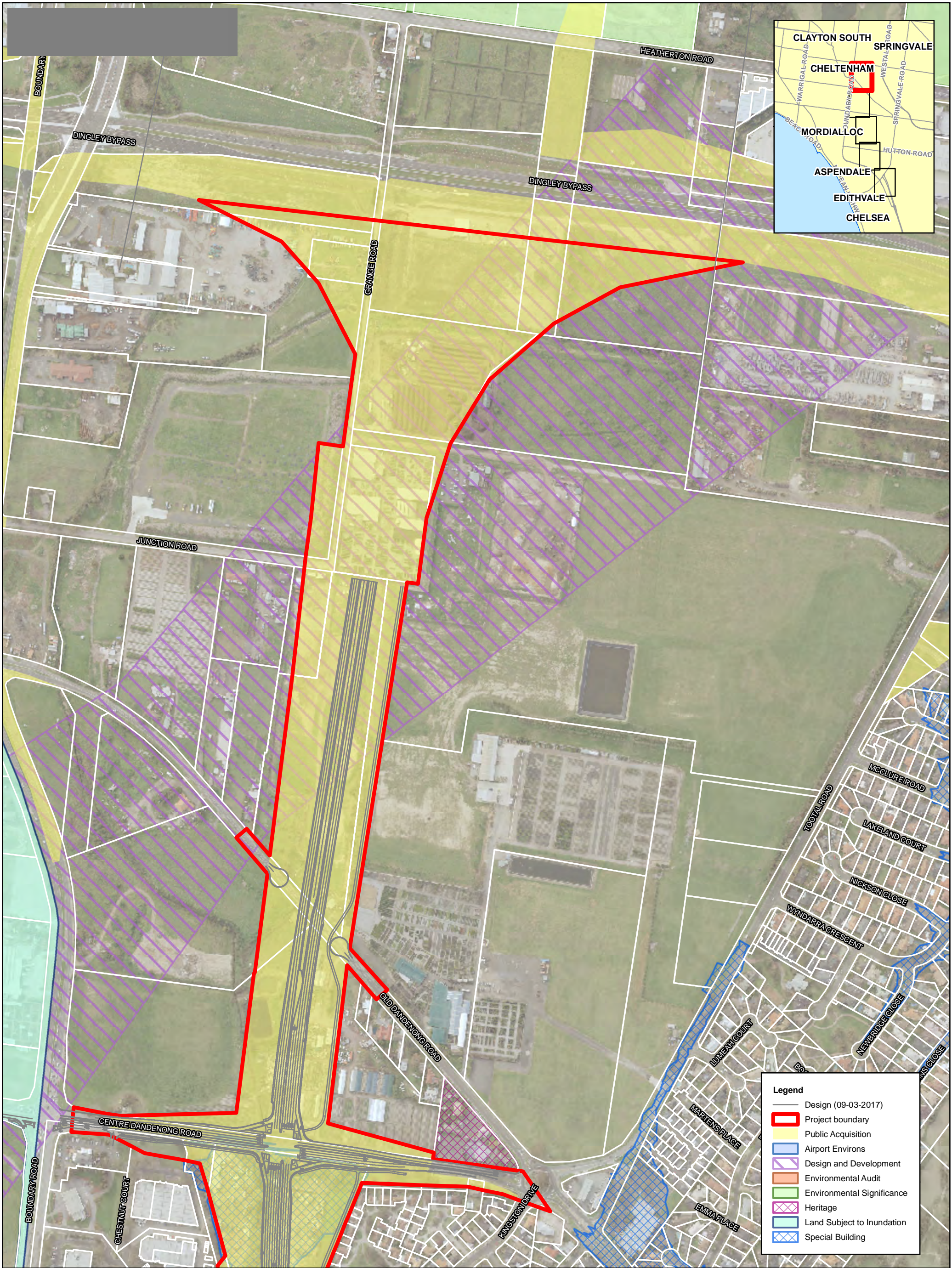
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VicRoads

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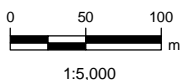


Map: 2135645A\_GIS\_201\_A2

Author: MAB

Date: 6/06/2017

Approved by: KJ



Coordinate system: GDA 1994 MGA Zone 55  
Scale ratio correct when printed at A3



Engineering and Technical Services  
for Mordialloc Bypass

Planning Maps - Overlays  
Map 1

Data source: VicRoads. Copyright © The State of Victoria,  
Department of Environment, Land, Water & Planning 2016. Road Design:  
X\_2135645A\_26\_CIV\_DESIGN\_ARTERIAL\_HYBRID (WSP | PB: 09-02-2017)

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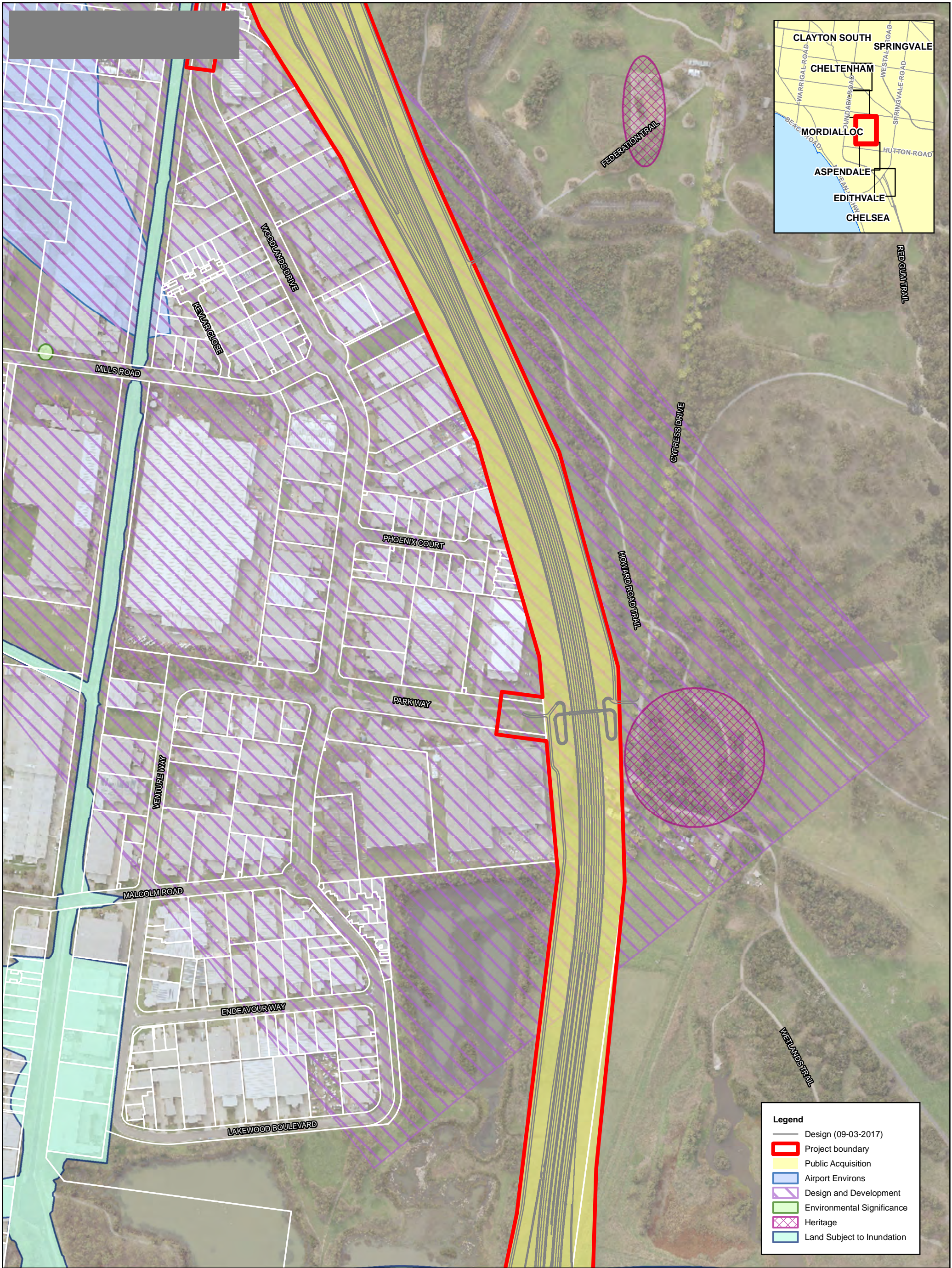
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www.wsp.com

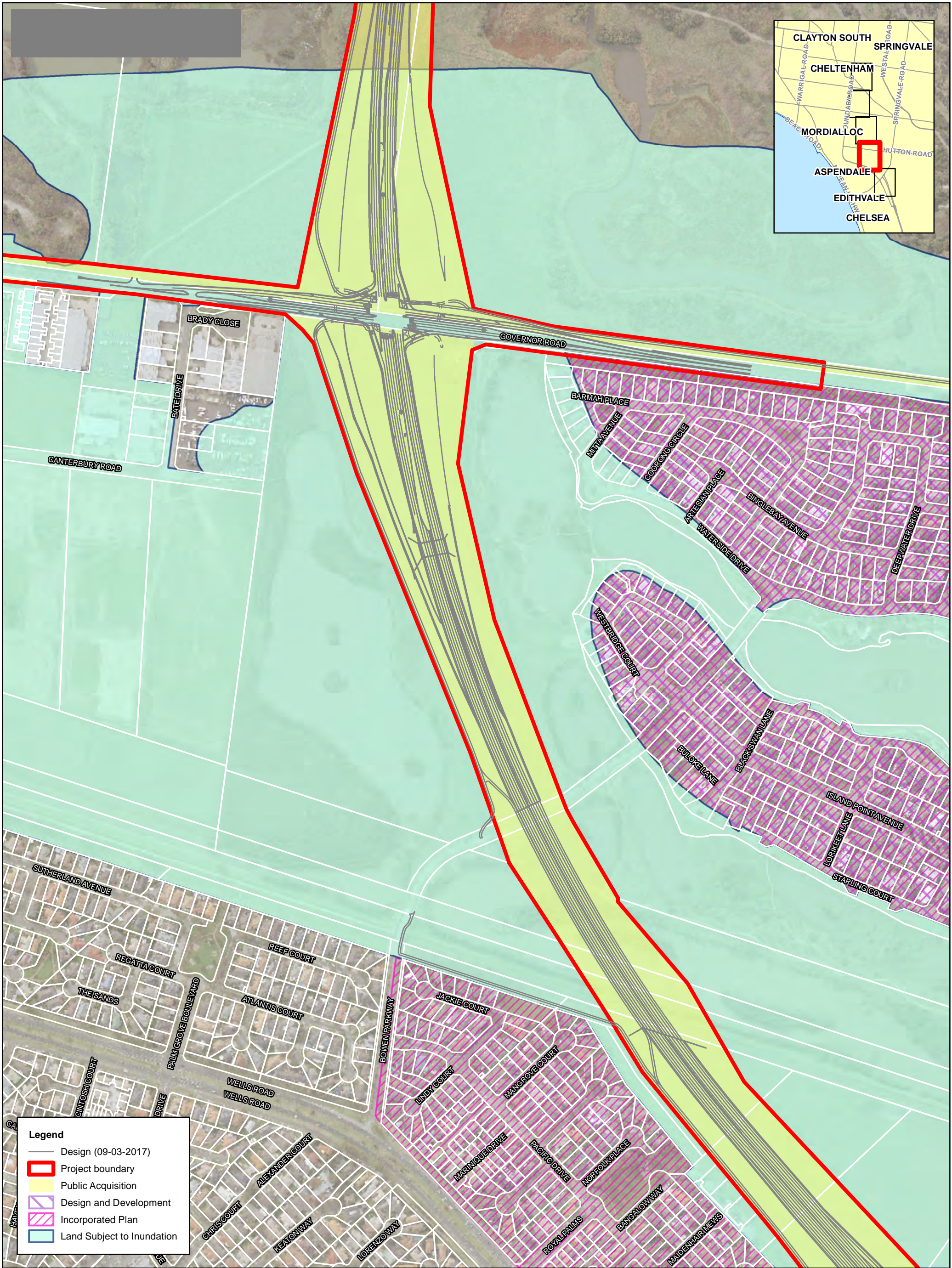




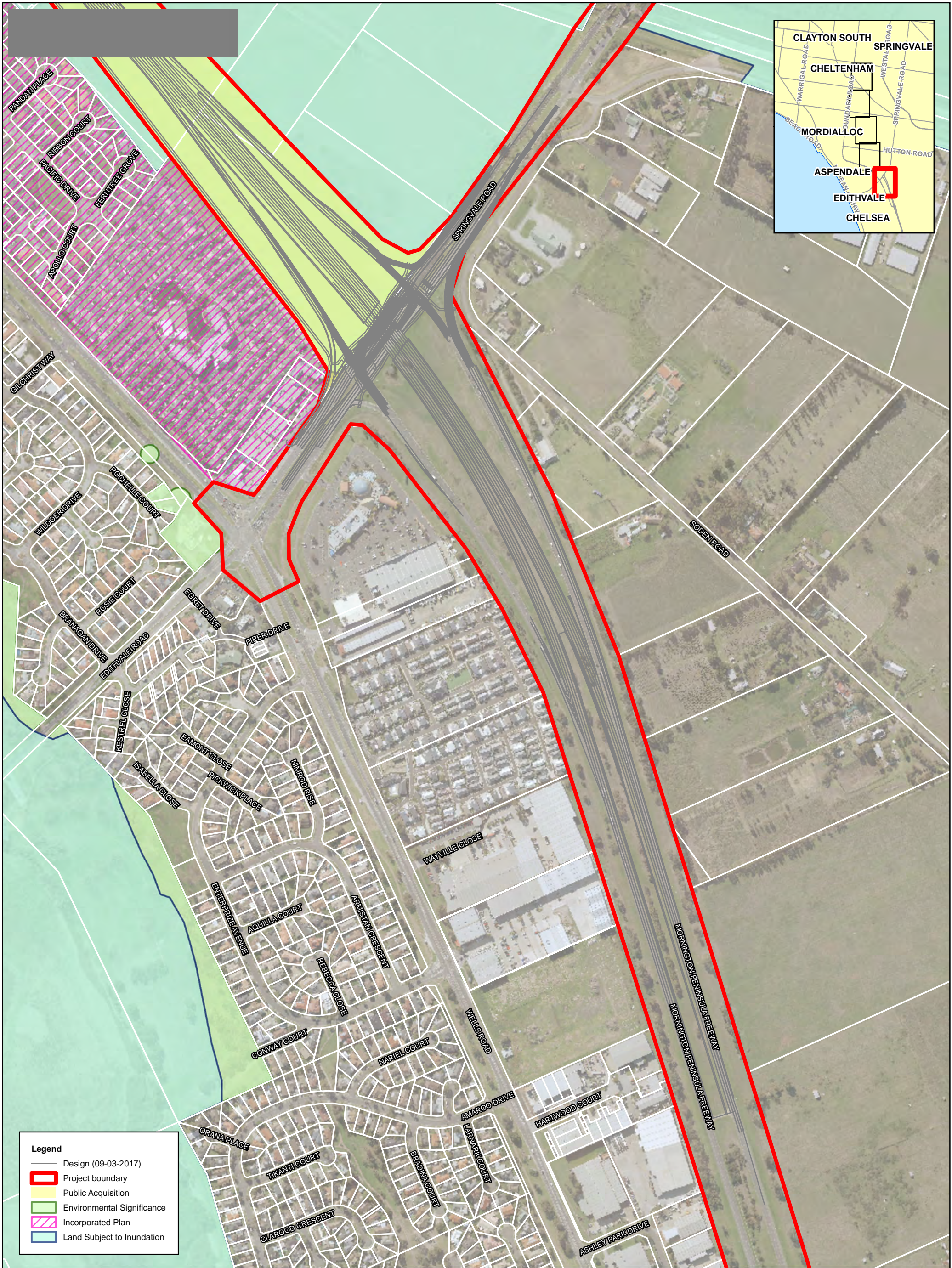




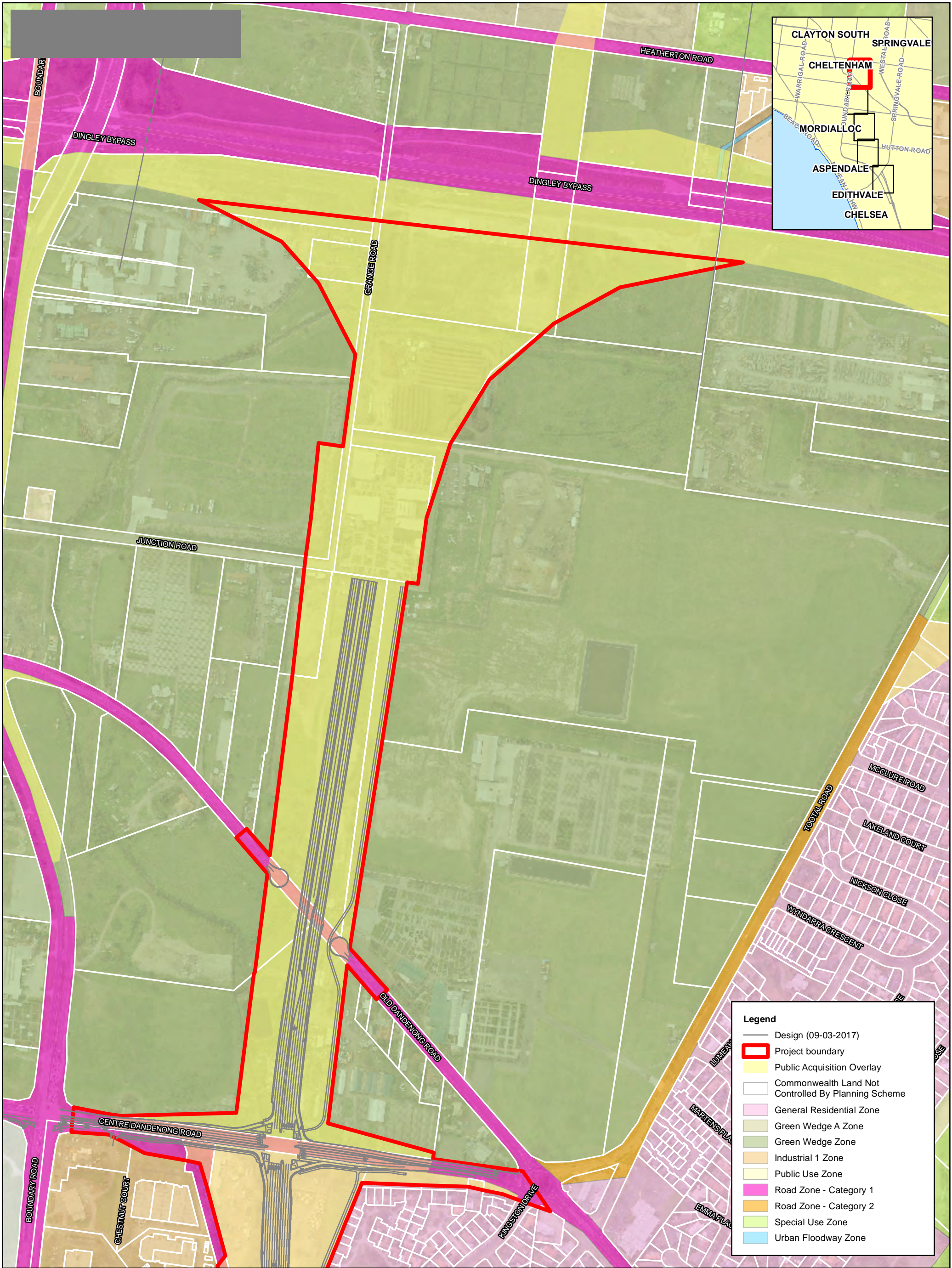








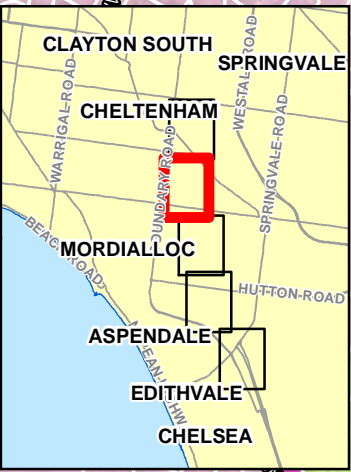
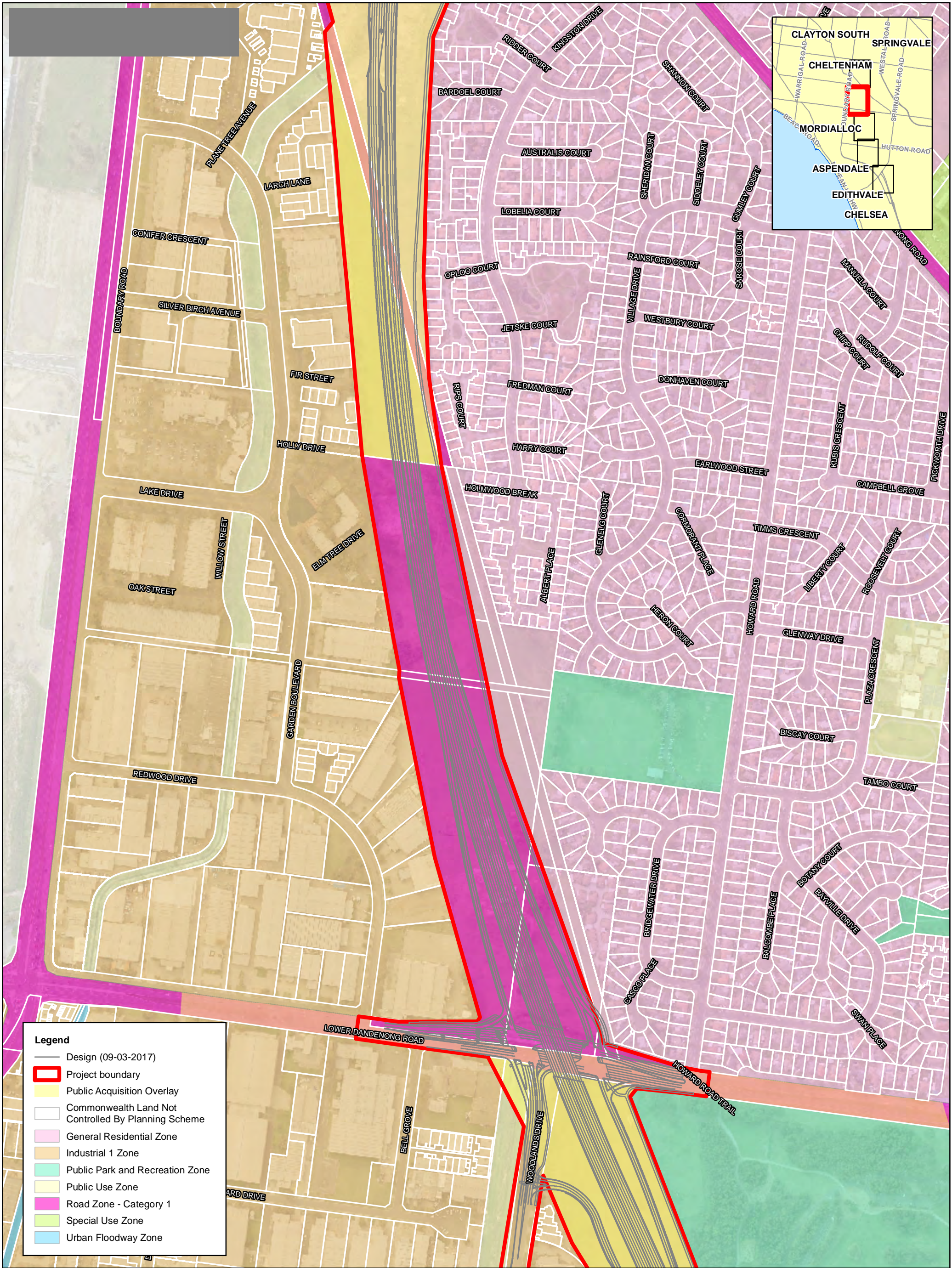




**Legend**

- Design (09-03-2017)
- Project boundary
- Public Acquisition Overlay
- Commonwealth Land Not Controlled By Planning Scheme
- General Residential Zone
- Green Wedge A Zone
- Green Wedge Zone
- Industrial 1 Zone
- Public Use Zone
- Road Zone - Category 1
- Road Zone - Category 2
- Special Use Zone
- Urban Floodway Zone

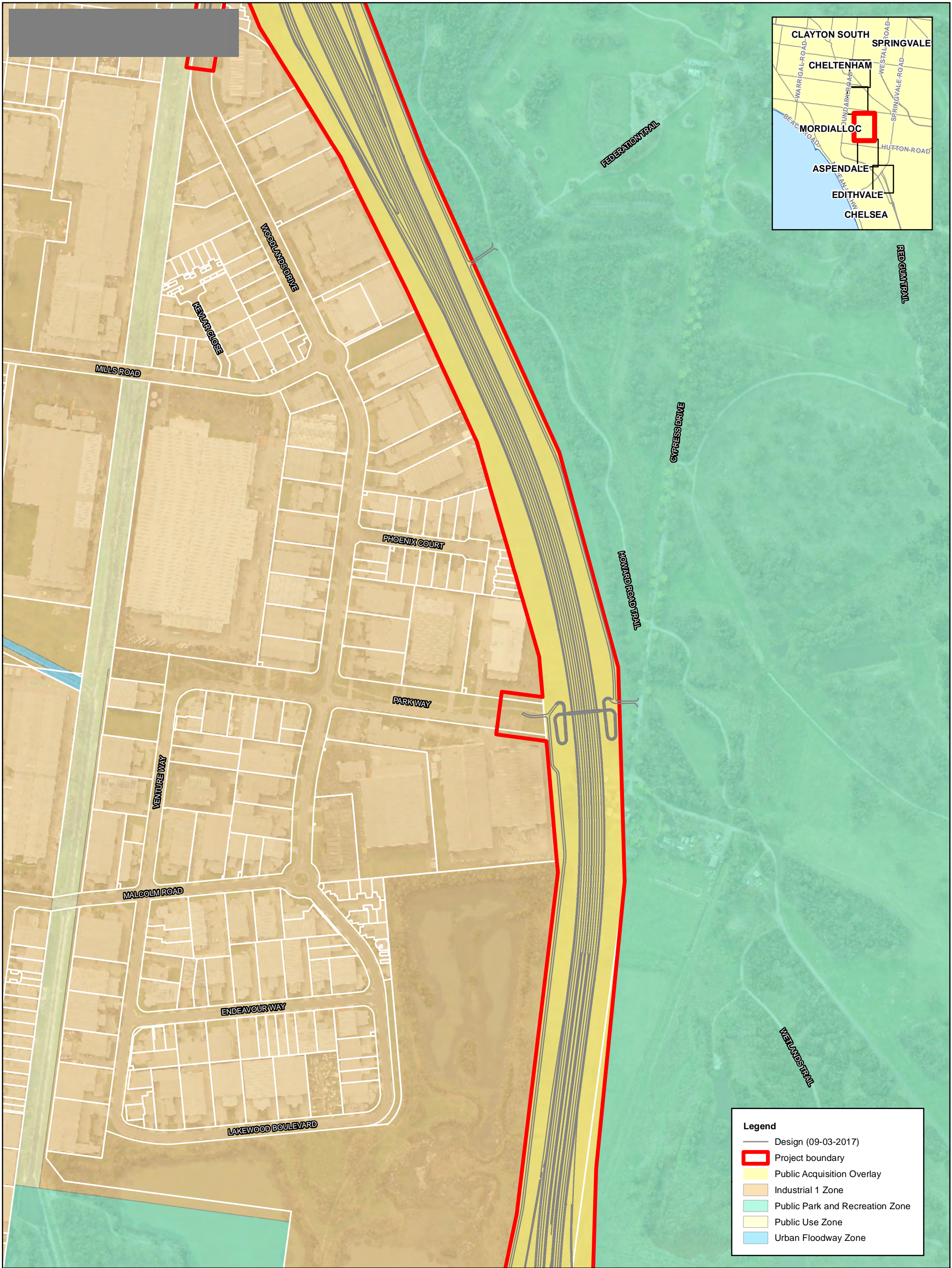




**Legend**

- Design (09-03-2017)
- Project boundary
- Public Acquisition Overlay
- Commonwealth Land Not Controlled By Planning Scheme
- General Residential Zone
- Industrial 1 Zone
- Public Park and Recreation Zone
- Public Use Zone
- Road Zone - Category 1
- Special Use Zone
- Urban Floodway Zone

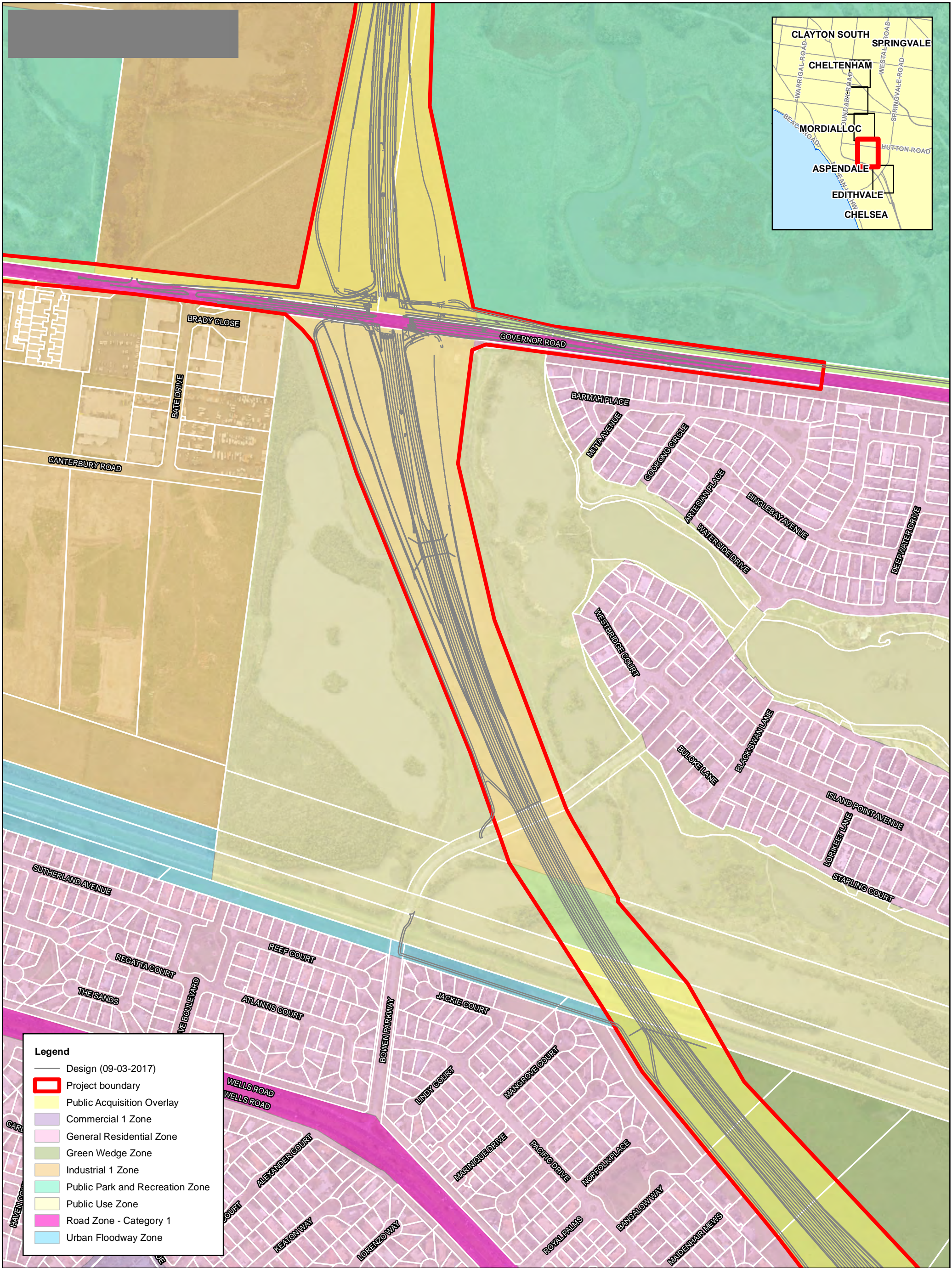




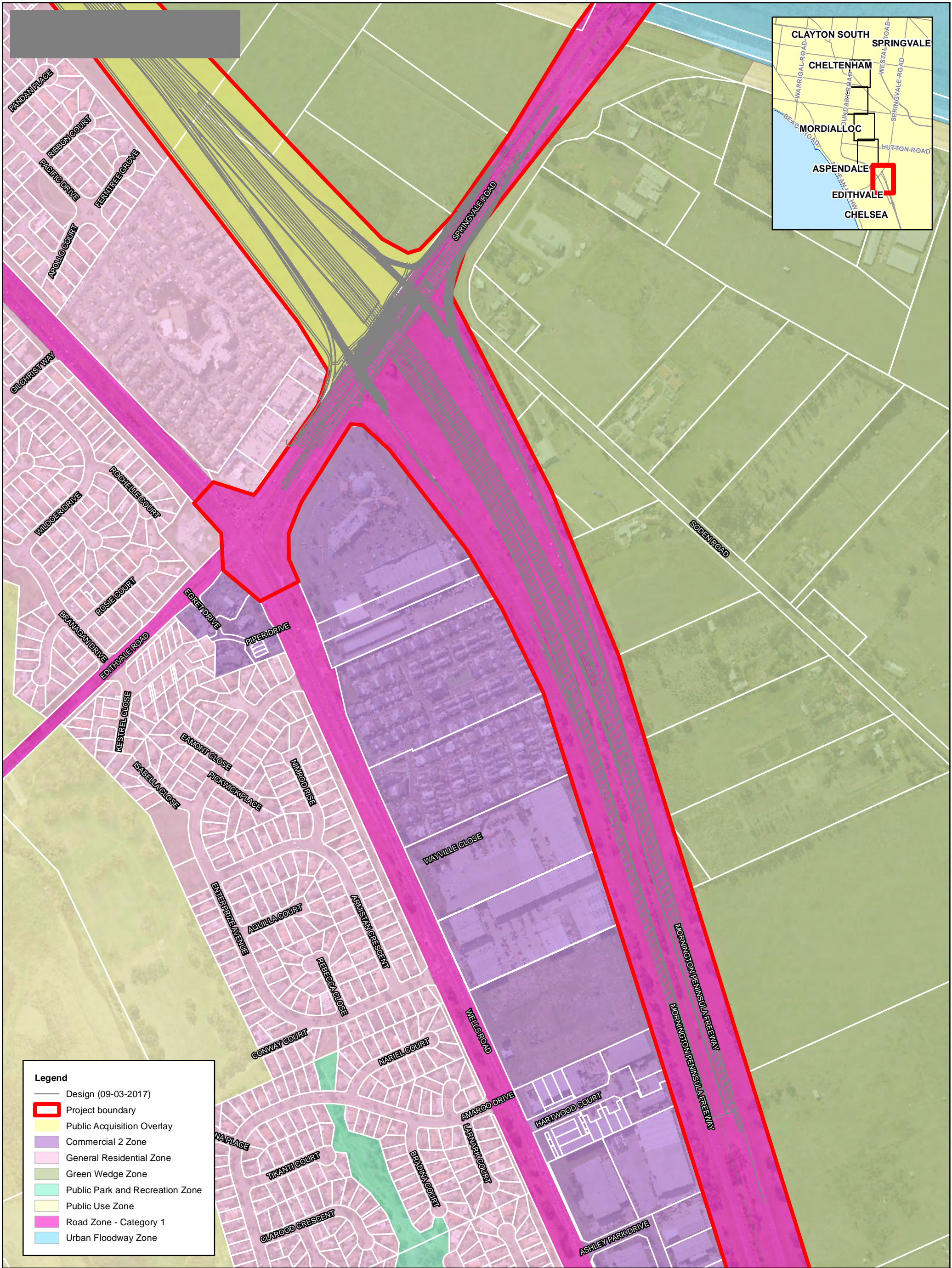
**Legend**

- Design (09-03-2017)
- Project boundary
- Public Acquisition Overlay
- Industrial 1 Zone
- Public Park and Recreation Zone
- Public Use Zone
- Urban Floodway Zone









**Legend**

Design (09-03-2017)

Project boundary

Public Acquisition Overlay

Commercial 2 Zone

General Residential Zone

Green Wedge Zone

Public Park and Recreation Zone

Public Use Zone

Road Zone - Category 1

Urban Floodway Zone



# Appendix B

## **LOTSEARCH REPORTS**

LOTSEARCH REPORTS (ROAD SECTIONS 1 TO 10)  
ADDITIONAL AERIAL PHOTOGRAPHS (2016)

# Lotsearch



## **Environmental Risk and Planning Report**

**OSAR Proposed Road Alignments - Site 26 (Section 1)**

**Report Buffer: 150m**

**Report Date: 09 Feb 2017 08:55:56**

**Disclaimer:**

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.

You should obtain independent advice before you make any decision based on the information within the report.

The detailed terms applicable to use of this report are set out at the end of this report.



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## Location Confidences

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

LC Code	Location Confidence
1	Georeferenced to the site location / premise or part of site
2	Georeferenced with the confidence of the general/approximate area
3	Georeferenced to the road or rail
4	Georeferenced to the road intersection
5	Feature is a buffered point
6	Land adjacent to Georeferenced Site
7	Georeferenced to a network of features

## Dataset Listing

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

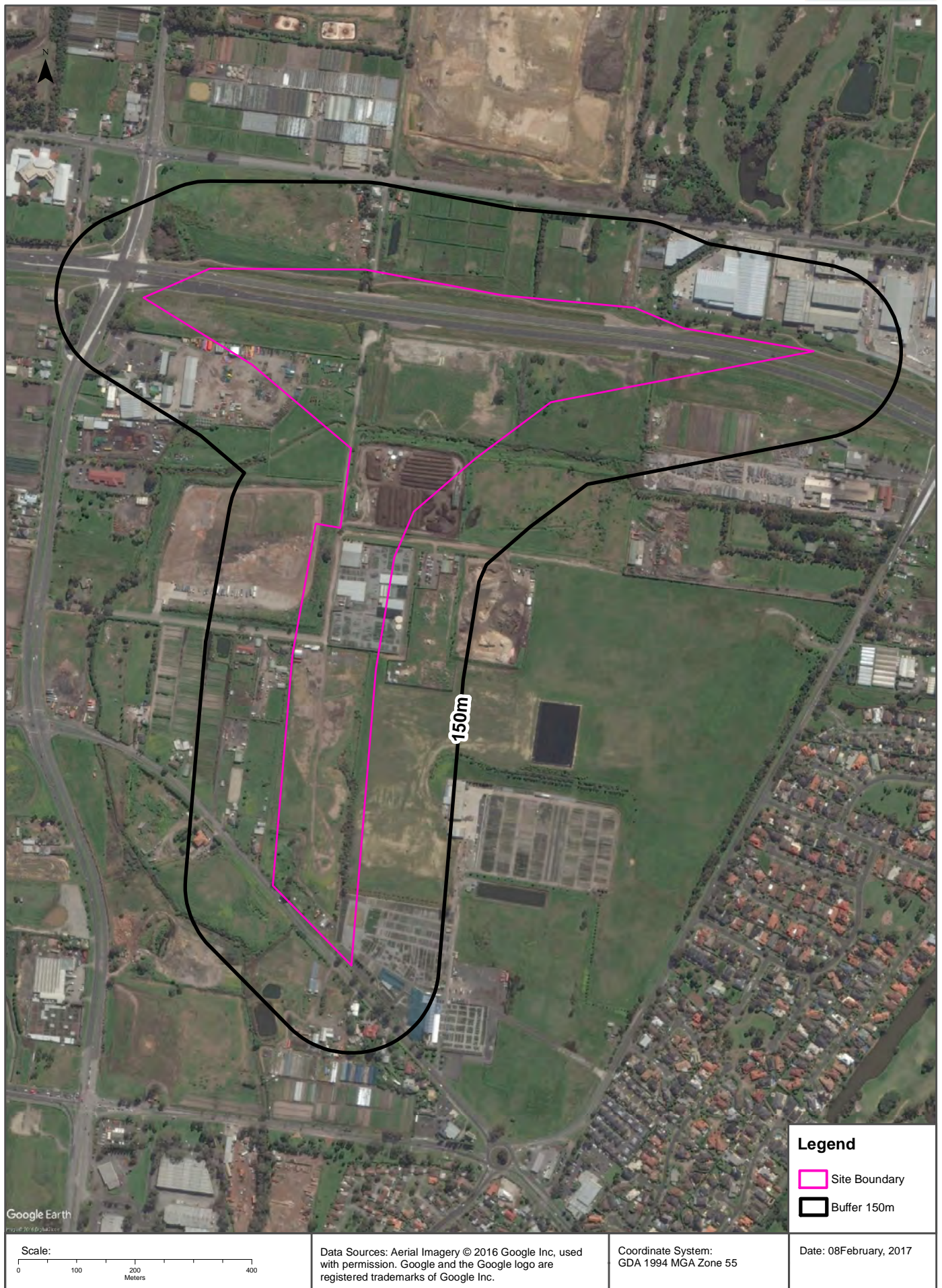
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Topographic and Cadastre data	State Government Victoria - Department of Environment, Land, Water & Planning	06/02/2017	06/02/2017	Quarterly	-	-	-
Current Priority Sites	Environment Protection Authority (Vic)	06/02/2017	31/12/2016	Monthly	1	1	1
Former Priority Sites & other Pollution Notices	Environment Protection Authority (Vic)	06/02/2017	05/01/2017	Monthly	11	11	11
EPA Environmental Audit Reports	Environment Protection Authority (Vic)	06/02/2017	24/11/2016	Monthly	1	1	1
Groundwater Zones with Restricted Uses	Environment Protection Authority (Vic)	06/02/2017	27/01/2017	Monthly	0	0	0
Licensed Activities	Environment Protection Authority (Vic)	06/02/2017	29/01/2017	Monthly	1	1	1
Former Licensed Activities	Environment Protection Authority (Vic)	06/02/2017	29/01/2017	Monthly	1	1	1
Works Approvals	Environment Protection Authority (Vic)	06/02/2017	06/02/2017	Monthly	0	0	0
National Waste Management Site Database	Geoscience Australia	06/02/2017	15/11/2012	Quarterly	1	2	2
Statewide Waste and Resource Recovery Infrastructure Plan Facilities	State Government Victoria - Department of Sustainability	27/11/2014	31/12/2012	None planned	4	4	4
EPA Prescribed Industrial Waste	Environment Protection Authority (Vic)	04/01/2017	04/01/2017	Quarterly	3	3	3
UBD Business to Business Directory 1991	Hardie Grant			Not required	0	1	8
UBD Business to Business Directory 1991 - Garages & Service Stations	Hardie Grant			Not required	0	0	0
UBD Business Directory 1980	Hardie Grant			Not required	1	1	7
UBD Business Directory 1980 Drycleaners, Motor Garages & Service Stations	Hardie Grant			Not required	0	0	0
UBD Business Directory 1960 Drycleaners, Motor Garages & Service Stations	Hardie Grant			Not required	0	0	0
UBD Business Directory 1950	Hardie Grant			Not required	0	0	0
UBD Business Directory 1950 Drycleaners, Motor Garages & Service Stations	Hardie Grant			Not required	0	0	0
Features of Interest	State Government Victoria - Department of Environment, Land, Water & Planning	03/02/2017	27/01/2017	Quarterly	1	1	2
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1	1	1
Groundwater Salinity	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	29/08/2012	Unknown	2	-	-
Depth to Watertable	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	29/08/2012	Unknown	2	-	-
Surface Elevation	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	23/09/2013	Unknown	1	-	-
Basement Elevation	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	23/09/2013	Unknown	1	-	-
Groundwater Boreholes WMIS	State Government Victoria - Department of Environment, Land, Water & Planning	29/04/2016	28/04/2016	Annually	2	2	221
Groundwater Boreholes Earth Resources Database	The State of Victoria, Department of Economic Development, Jobs, Transport and Resources	29/04/2016	17/02/2010	As required	1	1	35
Groundwater Boreholes Fed Uni	Federation University Australia	29/04/2016	07/01/2014	As required	0	0	0
Geological Units 1:50,000	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	2	-	2
Geological Structures 1:50,000	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	0	-	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	No. Features Onsite	No. Features within 100m	No. Features in Buffer
Dykes and Marker Beds 50k	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	0	0	0
Shear zones 250k	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	0	-	0
Coastal Acid Sulfate Soils	The State of Victoria, Department of Economic Development, Jobs, Transport and Resources	15/07/2016	30/03/2011	None planned	0	0	0
Planning Scheme Zones	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	2	6	8
Planning Scheme Overlay	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	2	3	4
Cultural Heritage Sensitivity	State Government Victoria - Department of Planning and Community Development	03/02/2017	27/01/2017	Quarterly	0	0	0
Bushfire Prone Area	State Government Victoria - Department of Transport, Planning and Local Infrastructure	27/01/2017	27/01/2017	Quarterly	0	0	0
Fire History	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	0	0	0
Flood - 1 in 100 Year Modelled Flood Extent	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	0	0	0
Native Vegetation (Modelled 2005 Ecological Vegetation Classes)	State Government Victoria - Department of Environment, Land, Water & Planning	13/01/2015	31/12/2005	None planned	0	2	4
RAMSAR Wetlands	State Government Victoria - Department of Environment, Land, Water & Planning	13/01/2015	24/06/2013	None planned	0	0	0



## Aerial Imagery 2016

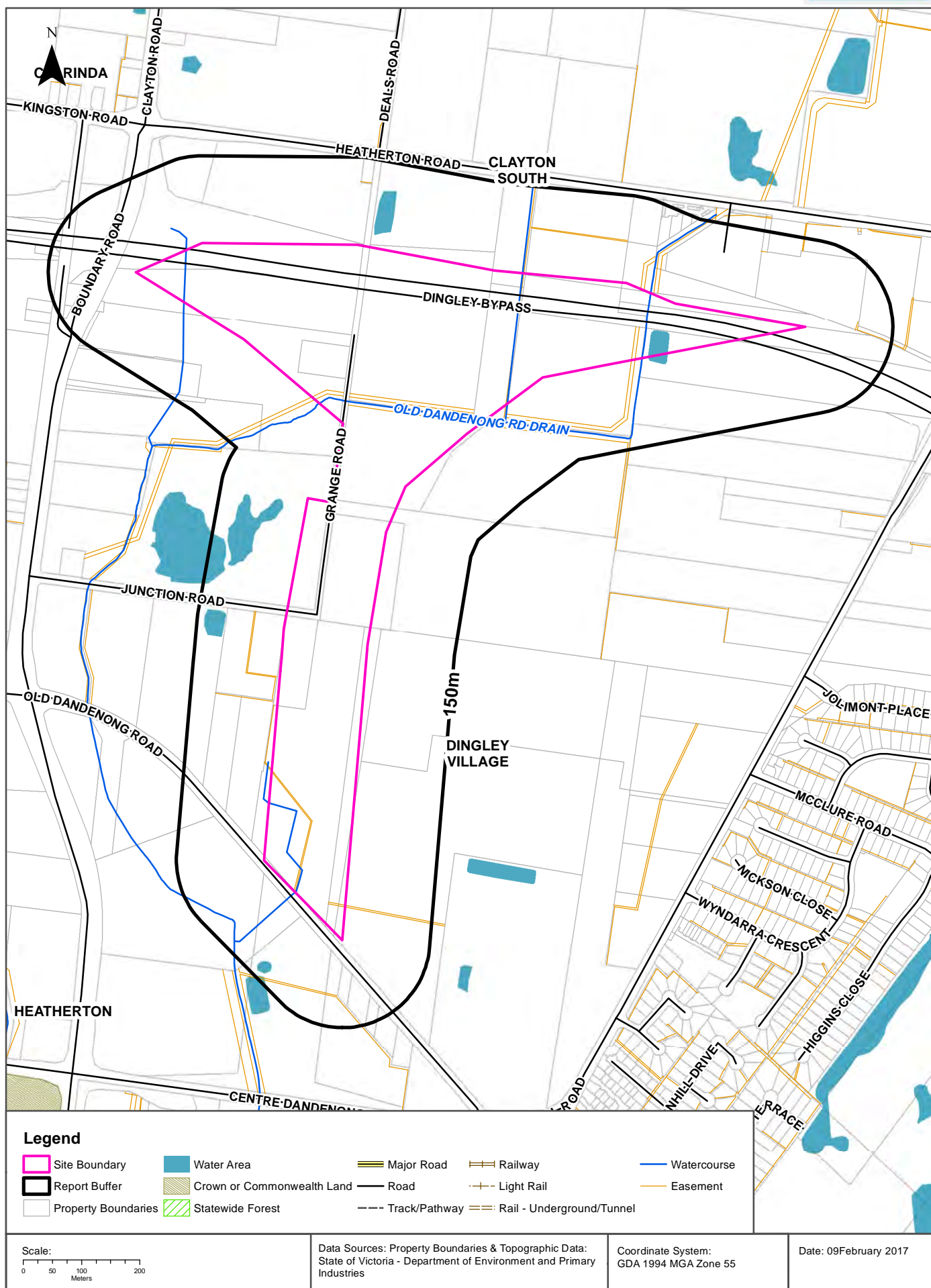
### OSAR Proposed Road Alignments - Site 26 (Section 1)





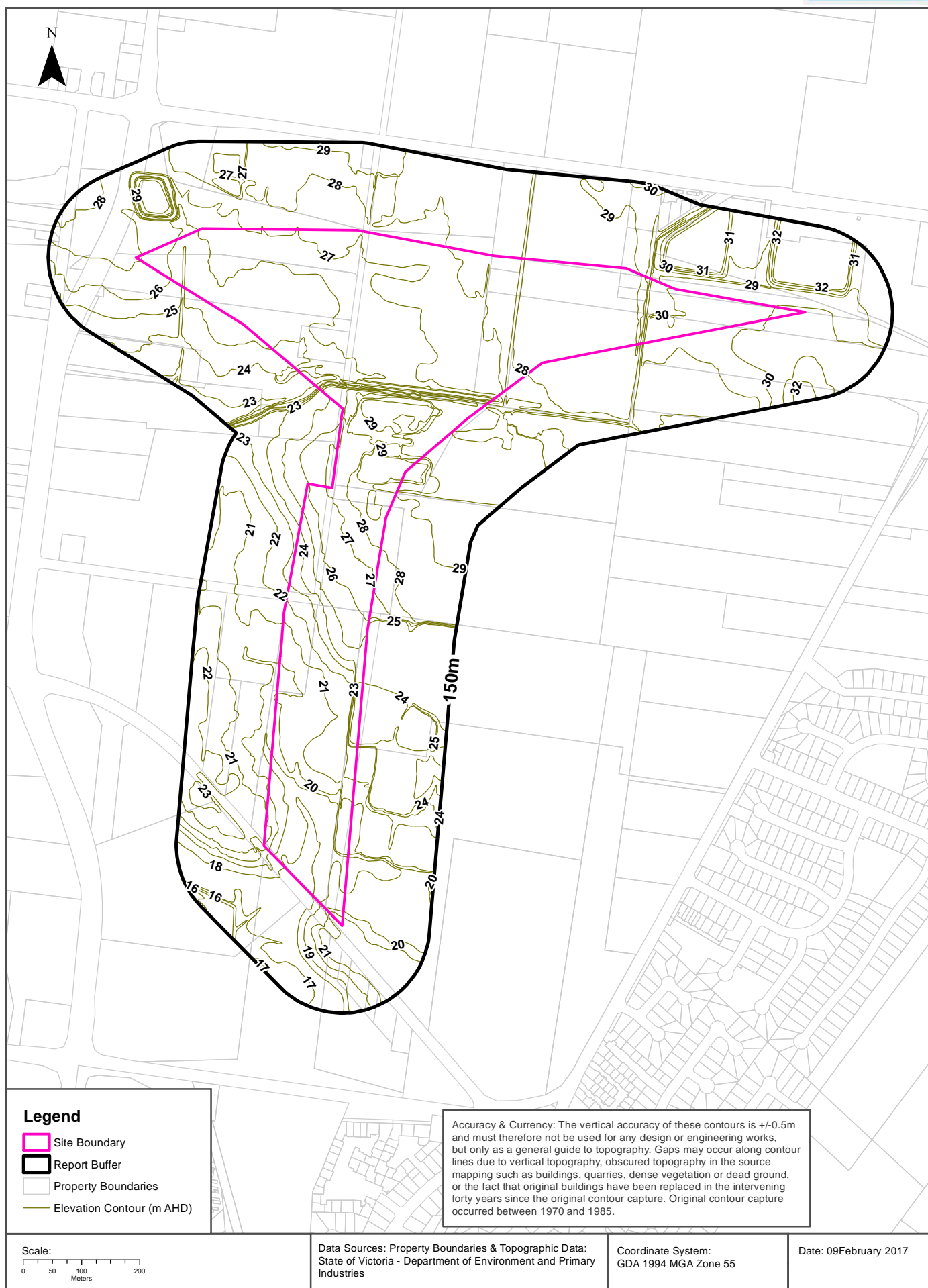
# Topographic Data

## OSAR Proposed Road Alignments - Site 26 (Section 1)



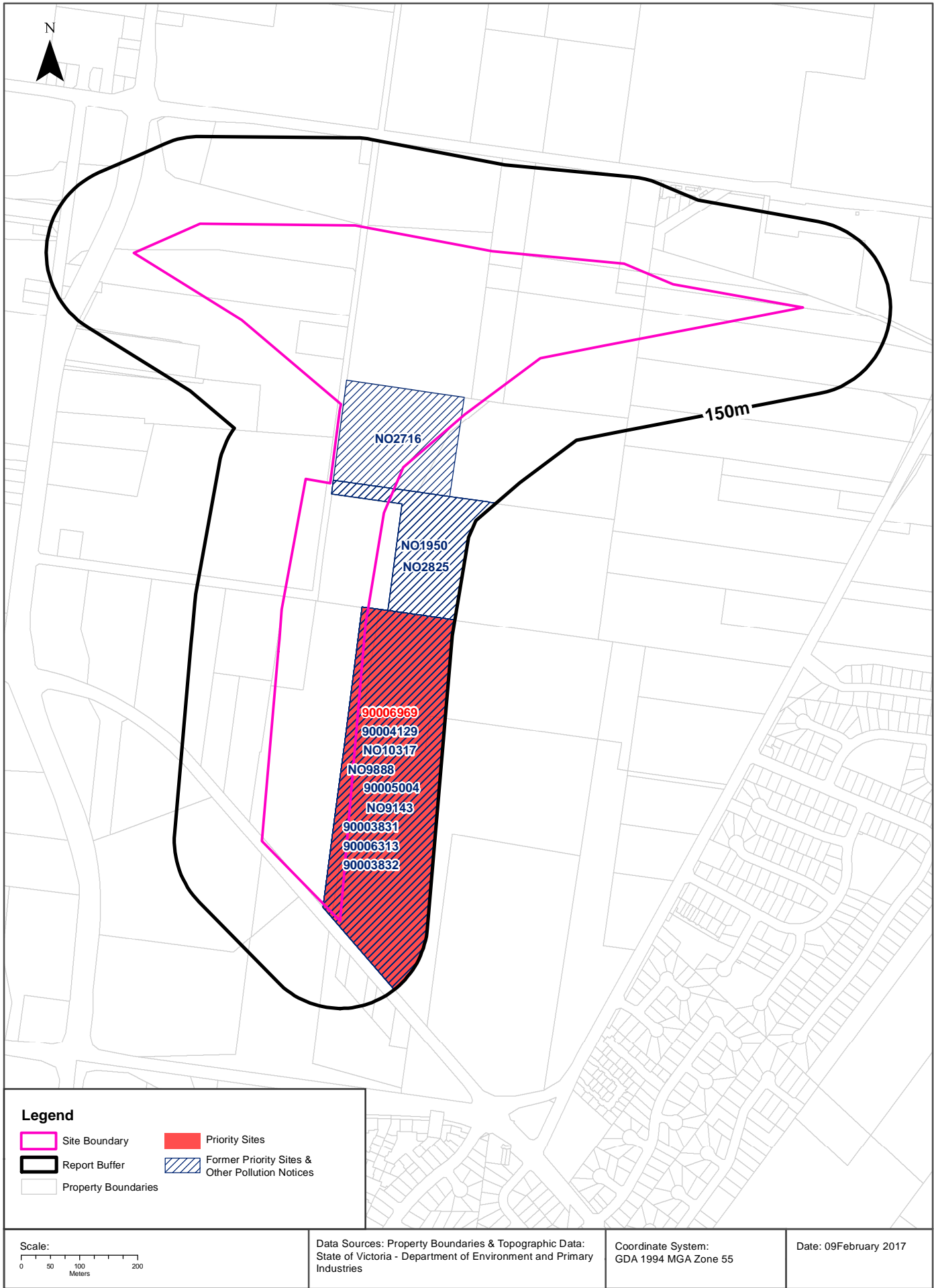
# Elevation Contours (m AHD)

## OSAR Proposed Road Alignments - Site 26 (Section 1)



# EPA Records - Priority Sites & Pollution Notices

OSAR Proposed Road Alignments - Site 26 (Section 1)



## EPA Records

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Current EPA Priority Sites Register

What sites on the current EPA priority sites register exist within the report buffer?

Notice No	Address	Suburb	Issue	Loc Conf	Dist (m)	Direction
90006969	370 Old Dandenong RD	DINGLEY VILLAGE		Premise Match	0m	Onsite

Priority Sites Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

## Former EPA Priority Sites & Other Pollution Notices

What sites within the report buffer have been issued a Pollution Notice?

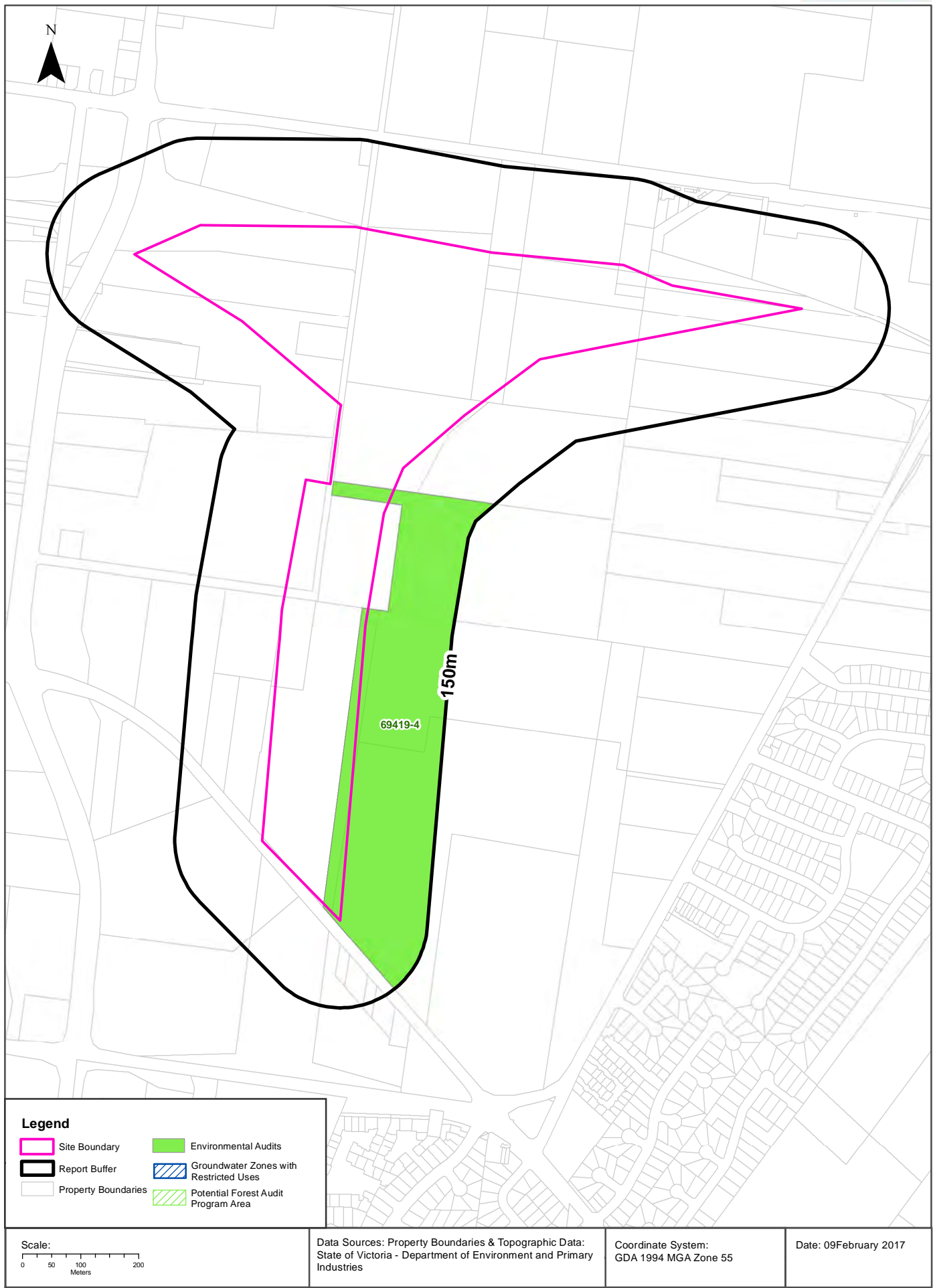
**Note. Due to pollution notices being revoked and removed from published lists this is not an exhaustive list of all past pollution notices.**

Notice No	Notice Type	Company	Address	Suburb	Status	Issue	Date Issued	Loc Conf	Dist	Dir
NO2716	31A(1)	AGJ CARTAGE CONTRACTORS P/L	LOT 2 GRANGE RD	DINGLEY	Legacy EPA Database Pollution Notice		09/03/2001	Premise Match	0m	Onsite
NO9888	62A(1)	ERNEST SMITH CONTRACTORS P/L	370-418 OLD DANDENONG RD	DINGLEY VILLAGE	Legacy EPA Database Pollution Notice	Current Landfill, Requires assessment and/or clean up.	10/10/2011	Premise Match	0m	Onsite
NO9143	62A(1)	ERNEST SMITH CONTRACTORS P/L	370-418 OLD DANDENONG RD	DINGLEY VILLAGE	Legacy EPA Database Pollution Notice	Current Landfill, Requires ongoing management.	24/02/2011	Premise Match	0m	Onsite
NO10317	31A(1)	ERNEST SMITH CONTRACTORS P/L	370-418 OLD DANDENONG RD	DINGLEY VILLAGE	Legacy EPA Database Pollution Notice	Current Landfill, Requires ongoing management.	03/04/2012	Premise Match	0m	Onsite
90006313	Pollution Abatement Notice	ERNEST SMITH CONTRACTORS	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Pollution Notice	AIR QUALITY - CONTAMINATION (LEGACY)	20/08/2015	Premise Match	0m	Onsite
90005004	Pollution Abatement Notice	ERNEST SMITH CONTRACTORS	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Pollution Notice		11/09/2014	Premise Match	0m	Onsite
90004129	Hydrogeological Assessment PAN	ERNEST SMITH CONTRACTORS	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Pollution Notice	LIQUID - CONTAMINATION (LEGACY)	25/09/2015	Premise Match	0m	Onsite
90003832	Previous Priority Notice, Monitoring, Rehab' & Aftercare PAN	ERNEST SMITH CONTRACTORS PROPRIETARY LIMITED	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Priority Notice	Former Landfill. Requires ongoing management	27/11/2014	Premise Match	0m	Onsite



Notice No	Notice Type	Company	Address	Suburb	Status	Issue	Date Issued	Loc Conf	Dist	Dir
90003831	Previous Priority Notice, Hydrogeological Assessment PAN	ERNEST SMITH CONTRACTORS PROPRIETARY LIMITED	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Priority Notice	Former Landfill. Requires ongoing management	17/07/2014	Premise Match	0m	Onsite
NO1950	31A(1)	STINO NOMINEES P/L	LOT 1 GRANGE RD	SPRINGVALE SOUTH	Legacy EPA Database Pollution Notice		04/04/1990	Premise Match	0m	Onsite
NO2825	31A(1)	SUPER SOIL P/L	LOT 1 GRANGE RD	DINGLEY	Legacy EPA Database Pollution Notice		28/09/2001	Premise Match	0m	Onsite

Pollution Notice Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)



## EPA Records

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## EPA Environmental Audits

What EPA environmental audit records exist within the report buffer?

Note. Please click on CARMS No. to activate a hyperlink to online documentation. If link does not work, documentation may still be accessible via the EPA Interaction Portal.

CARMS No	Transaction No	Site	Address	Suburb	Date Complete	Loc Conf	Distance	Direction
69419-4	8004942	370-418 OLD DANDENONG RD, DINGLEY VILLAG 370-418 OLD DANDENONG RD	370-418 OLD DANDENONG RD, DINGLEY VILLAG 370-418 OLD DANDENONG RD	DINGLEY VILLAGE	22/07/2016	Premise Match	0m	Onsite

Environmental Audit Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

## EPA Groundwater Zones with Restricted Uses

What EPA GQRUZ exist within the report buffer?

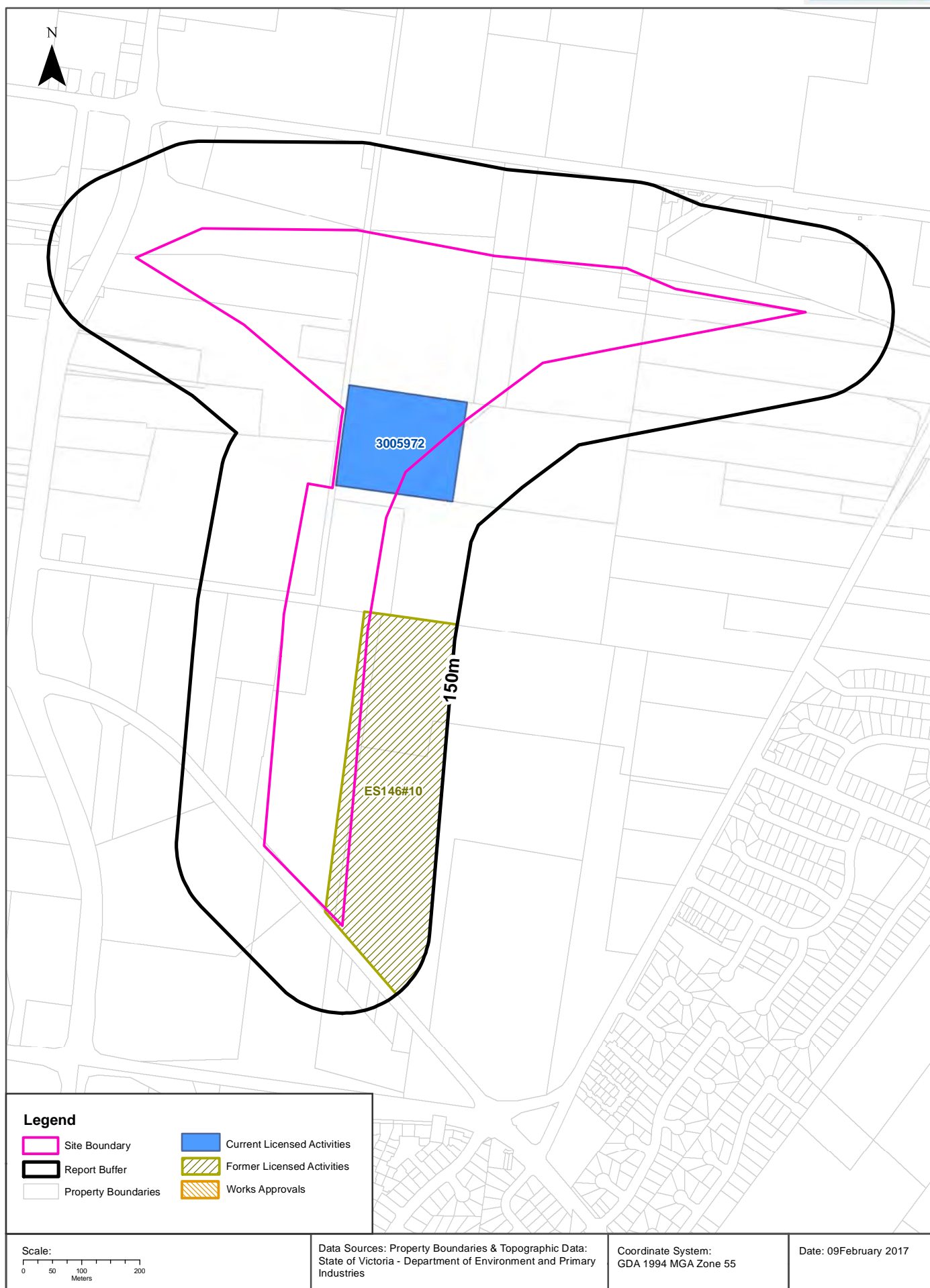
Note. Please click on CARMS No. to activate a hyperlink to online documentation.

CARMS No	EPA Id	Site History	Site Address	Restricted Uses	Loc Conf	Distance	Direction
N/A	No records in buffer						

Environmental GQRUZ Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

# EPA Records - Licensed Activities & Works Approvals

OSAR Proposed Road Alignments - Site 26 (Section 1)



## EPA Records

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## EPA Licensed Activities

What EPA licensed activities exist within the report buffer?

Trans No	Licence No	Licence Type	Organisation	Premise Ref	Premise Address 1	Premise Address 2	Activities	Loc Conf	Dist (m)	Direction
3005972	EA63780 #6	Licence	ENVIROMIX PTY LTD		LOT 2 GRANGE RD	DINGLEY VILLAGE VIC 3172	A07 Composting	Premise Match	0m	Onsite

Licensed Activity Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

## Former EPA Licensed Activities

What former EPA licensed activities exist within the report buffer?

Licence No	Organisation	Premise Address	Suburb	Activities	Loc Conf	Dist (m)	Direction
ES146#10	ERNEST SMITH CONTRACTORS PROPRIETARY LIMITED	370-418 Old Dandenong Rd	DINGLEY VILLAGE VIC 3172	A05 Landfills	Premise Match	0m	Onsite

Former Licensed Activity Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

## EPA Works Approvals

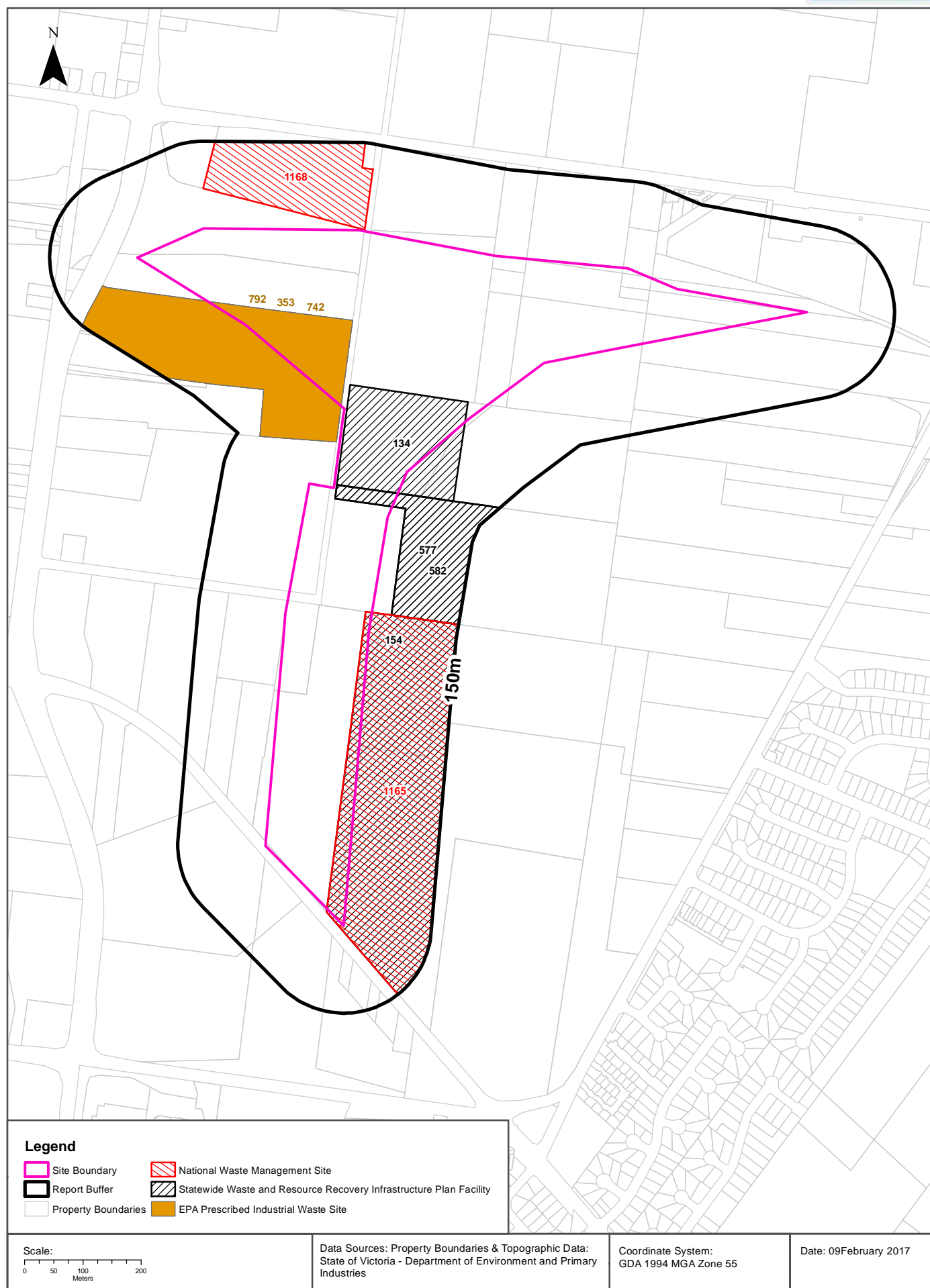
What EPA works approvals exist within the report buffer?

Transaction No	Status	Approval No	Organisation	Premise Address	Suburb	Scheduled Categories	Loc Conf	Dist (m)	Direction
N/A	No records in buffer								

Works Approvals Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

# Waste Management Facilities

## OSAR Proposed Road Alignments - Site 26 (Section 1)



## Waste Management Facilities

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## National Waste Management Site Database

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

Site Id	Owner	Name	Address	Suburb	Postcode	Landfill	Reprocess	Transfer	Loc Conf	Dist (m)	Direction
1165	Kingston Council	Ernest Smith Contractors Pty Ltd	Tootal Road	Dingley Village	3172	Operating	Not Applicable	Not Applicable	Premise Match	0m	Onsite
1168	Kingston Council	Vidotta	Corner Grange Road & Heatherton Road	Clayton South	3169	Operating	Not Applicable	Not Applicable	Premise Match	3m	North

Waste Management Facilities Data Source: Australian Government Geoscience Australia

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## Statewide Waste and Resource Recovery Infrastructure Plan Facilities

Statewide Waste and Resource Recovery Infrastructure Plan Facilities within the report buffer:

Map Id	Owner	Site Name	Address	Suburb	Category	Sub Category	Loc Conf	Distance	Direction
134	Vic roads	Enviromix	Lot 2, Grange Road	DINGLEY VILLAGE	Organics	Garden Waste	Premise Match	0m	Onsite
154		Ernest Smith Contractors (ES 146)	370-418 Old Dandenong Rd	Dingley Village	Landfill	Landfill	Premise Match	0m	Onsite
582		Transpacific Industries (Dingley Soils)	Lot 1 Grange Rd	Dingley Village	Organics	Garden Waste	Premise Match	0m	Onsite
577		Transpacific Industries	Lot 1 Grange Rd	Dingley Village	Commercial & Industrial	C&I Recovery	Premise Match	0m	Onsite

SWRRIPF Data Source: State Government Victoria - Department of Sustainability

## EPA Prescribed Industrial Waste

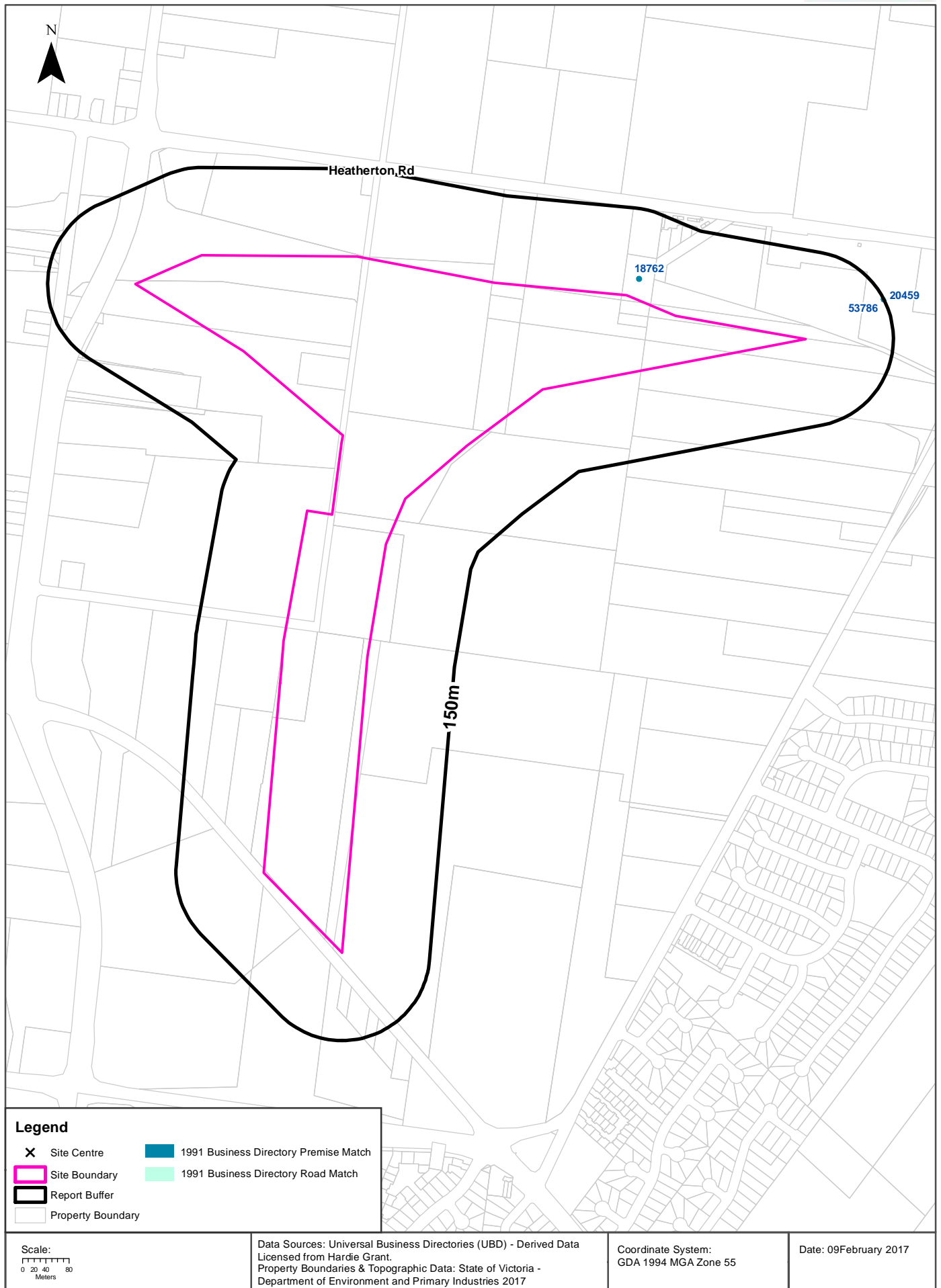
EPA Prescribed industrial waste sites within the report buffer:

Map Id	Company Name	Address	Suburb	Treatment /Disposal	Transport	Accredited Agent	EPA List Status	Loc Conf	Dist (m)	Direct
353	KS ENVIRONMENTAL PTY LTD	544 BOUNDARY RD	HEATHERTON VIC 3202	No	Yes	Yes	Current EPA List	Premise Match	0m	Onsite
742	PADGET PTY LTD	544-554 BOUNDARY RD	DINGLEY VILLAGE VIC 3172	No	Yes	Yes	Current EPA List	Premise Match	0m	Onsite
792	PADGET PTY LTD [DINGLEY VILLAGE]	544-554 BOUNDARY RD	DINGLEY VILLAGE VIC 3172	No	Yes	Yes	Previous EPA List	Premise Match	0m	Onsite

Prescribed Industrial Waste Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

# Historical Business to Business Directory Activity 1991

## OSAR Proposed Road Alignments - Site 26 (Section 1)





## Historical Business Directories

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## 1991 Business to Business Directory Records

1991 UBD Business Directory Records within 150m of the site:

Activity	Organisation	Address	Ref No.	Location Confidence	Distance	Direction
Nurserymens Supplies.	Fernwoeld,	572 Heatherton Rd.. Clayton South. 3169	18762	Premise Match	32m	North East
Motor Accessories Mfrs &/or Imps &/or W/salers	Kitten Products	622 Heatherton Rd., Clayton South. 3169	10799	Premise Match	148m	East
Motor Accessories Mfrs &/or Imps &/or W/salers	Kitten Products	622 Heatherton Rd., Clayton South. 3169	10800	Premise Match	148m	East
Polish Mfrs. &/or Dists	Kiwi, Nicholas Pty. Ltd..	622 Heatherton Rd., Clayton South. 3169	10801	Premise Match	148m	East
Boot &/or Shoe Polish Mfrs &/or Dists	Kiwi Nichols Pty Ltd	622 Heatherton Rd., Clayton South. 3169	53786	Premise Match	148m	East
Cosmetic Mfrs &/or W/salers	Richford cinta Pty Ltd	622 Heatherton Rd., Clayton South. 3169	20459	Premise Match	148m	East
Seed Merchants	Baguley F & I Flower & Plant Growers	Heatherton Rd Clayton South 3169	26770	Road Match	149m	North East
Florists - Wholesale	F & I Flower & Plant Growers	Heatherton Rd Clayton South 3169	3228	Road Match	149m	North East

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

## 1991 Business to Business Directory Garages & Service Stations

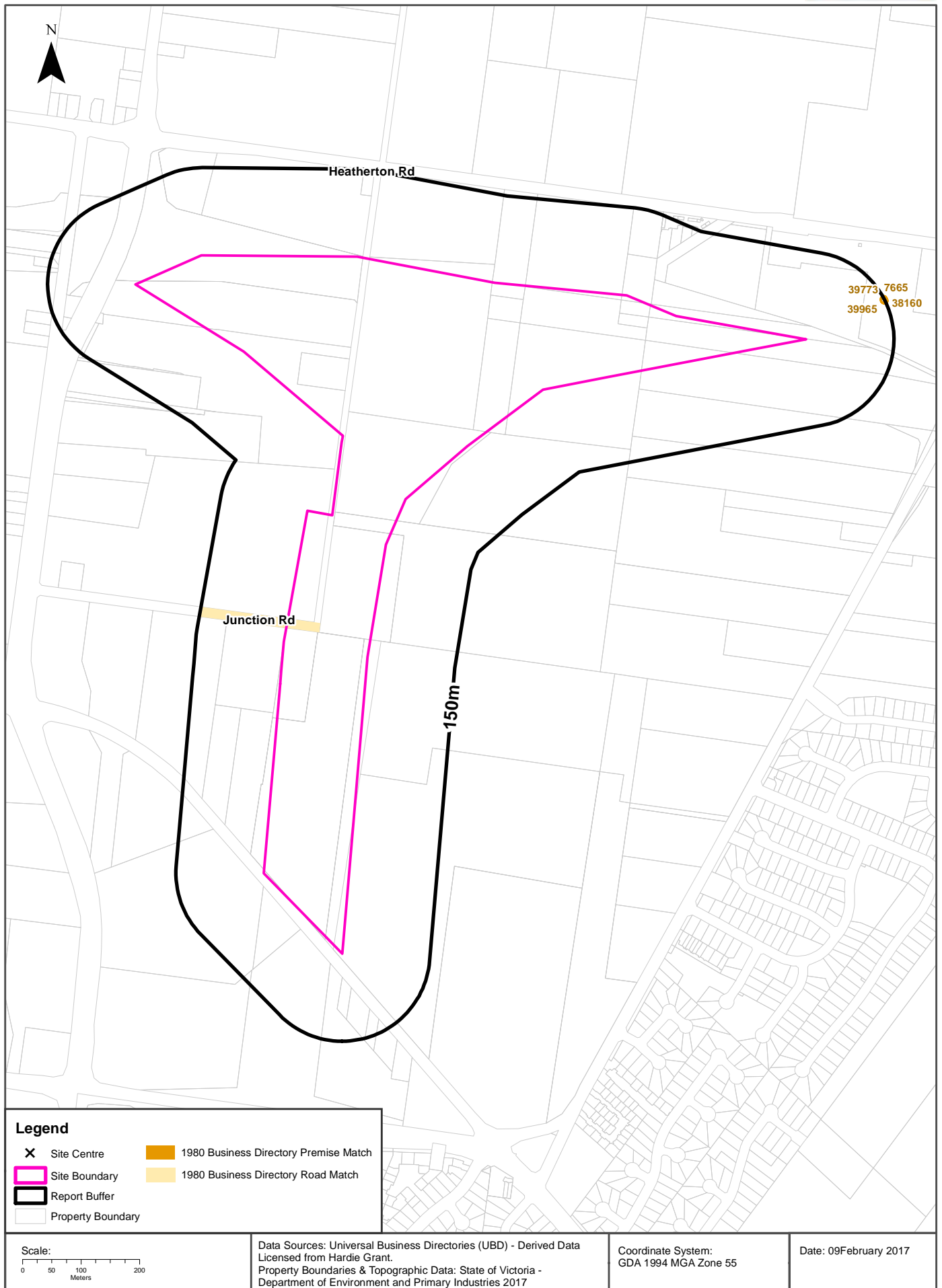
1991 UBD Business Directory Garages & Service Stations within 1km of the site:

Activity	Organisation	Address	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer					

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

# Historical Business Directory Activity 1980

## OSAR Proposed Road Alignments - Site 26 (Section 1)



## Historical Business Directories

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## 1980 Business Directory Records

1980 UBD Business Directory Records within 150m of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
BUILDERS & ALLIED TRADES.	Benedek, J., 2 Junction Rd., Heatherton.	9820	Road Match	0m	-
MOTOR SPARE PARTS MFRS. &/OR W/SALERS.	Kitten Products Pty. Ltd., 622 Heatherton Rd., Clayton South.	39965	Premise Match	148m	East
MOTOR ACCESSORY MFRS.&/OR WHOLESALERS.	Kitten Products Pty. Ltd., 622 Heatherton Rd., Clayton South.	38160	Premise Match	148m	East
MOTOR PANEL BEATERS SUPPLIES.	Kitten Products Pty. Ltd., 622 Heatherton Rd., Clayton South.	39773	Premise Match	148m	East
BOOT &/OR SHOE POLISH MFRS.	Kiwi Polish Co. Pty. Ltd., 622 Heatherton Rd., Clayton South.	7665	Premise Match	148m	East
SEEDSMEN & NURSERYMEN.	Baguley, F. & I., Heatherton Rd., Clayton South.	49426	Road Match	149m	North East
FLORISTS-WHOLESALE.	Baguley, F. & I., Heatherton Rd., Clayton South.	24400	Road Match	149m	North East

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

## 1980 Business Directory Drycleaners, Garages & Service Stations

Drycleaners, Garages & Service Stations from the 1980 UBD Business Directory within 1km of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

## Historical Business Directories

### OSAR Proposed Road Alignments - Site 26 (Section 1)

#### 1960 Business Directory Drycleaners, Garages & Service Stations

Drycleaners, Garages & Service Stations from the 1960 UBD Business Directory within 1km of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

#### 1950 Business Directory Records

1950 UBD Business Directory Records within 150m of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

#### 1950 Business Directory Drycleaners, Garages & Service Stations

Drycleaners, Garages & Service Stations from the 1950 UBD Business Directory within 1km of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant



# Aerial Imagery 2009

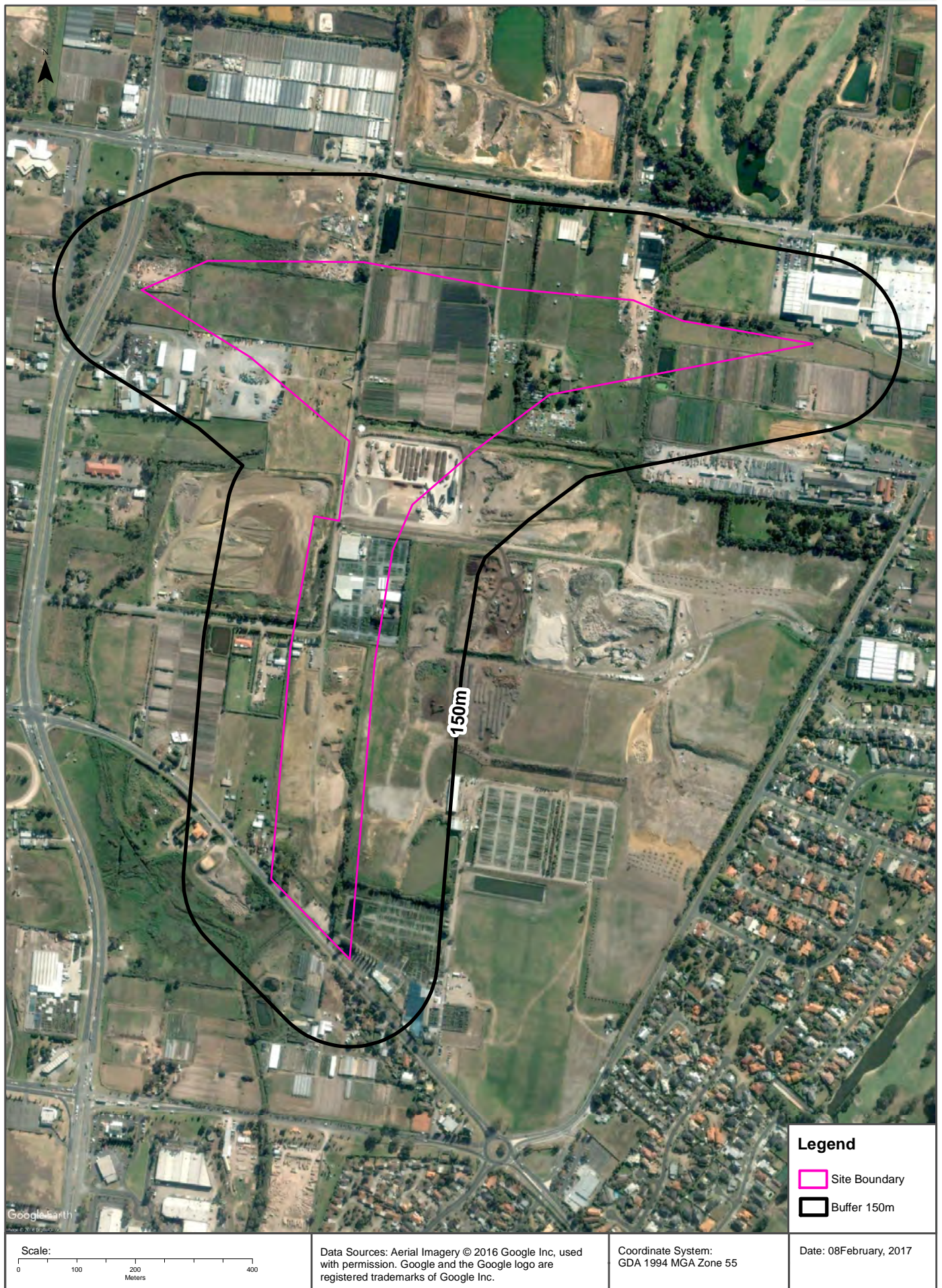
## OSAR Proposed Road Alignments - Site 26 (Section 1)





## Aerial Imagery 2005

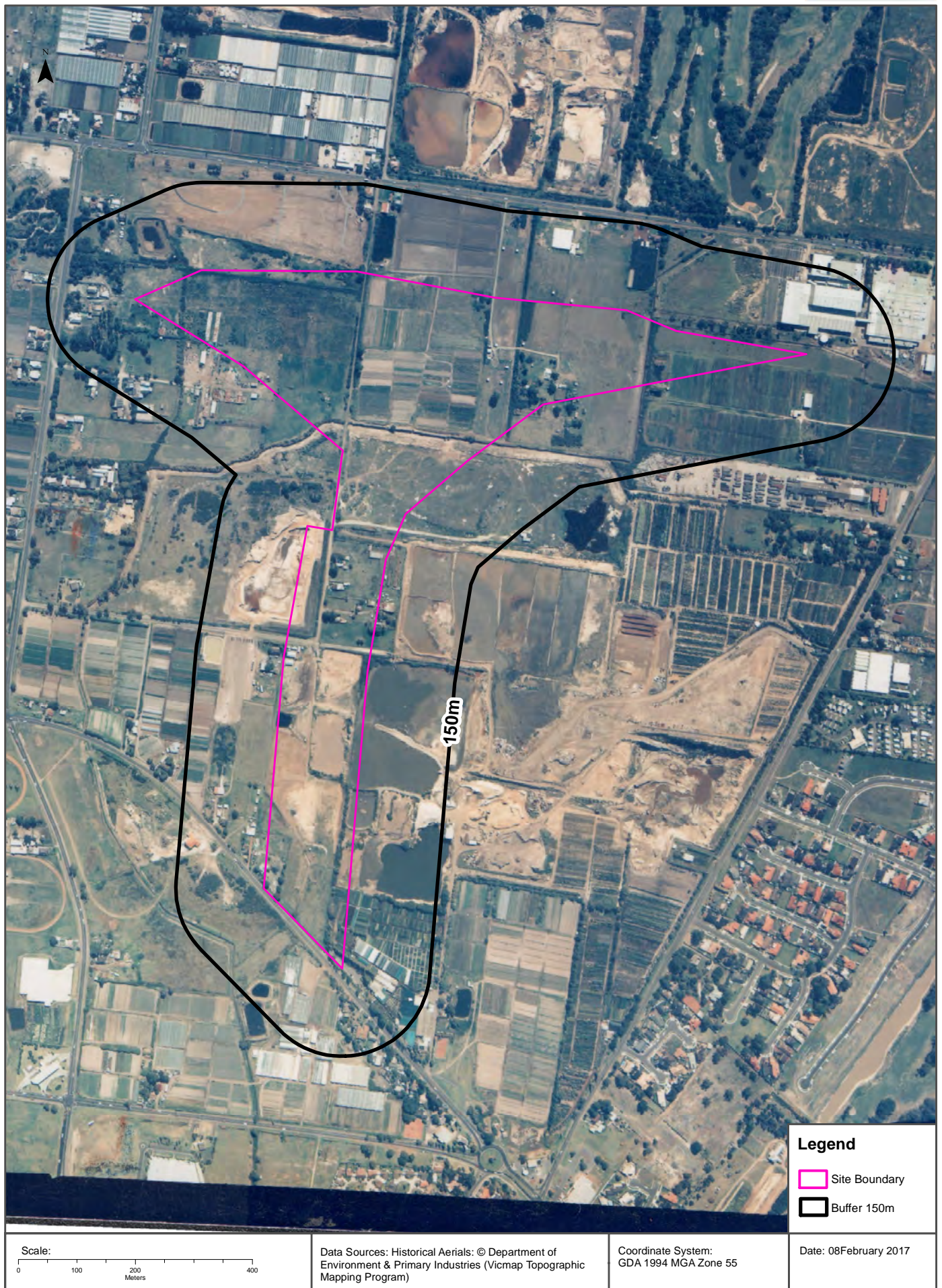
### OSAR Proposed Road Alignments - Site 26 (Section 1)





## Aerial Imagery 1991

OSAR Proposed Road Alignments - Site 26 (Section 1)





## Aerial Imagery 1982

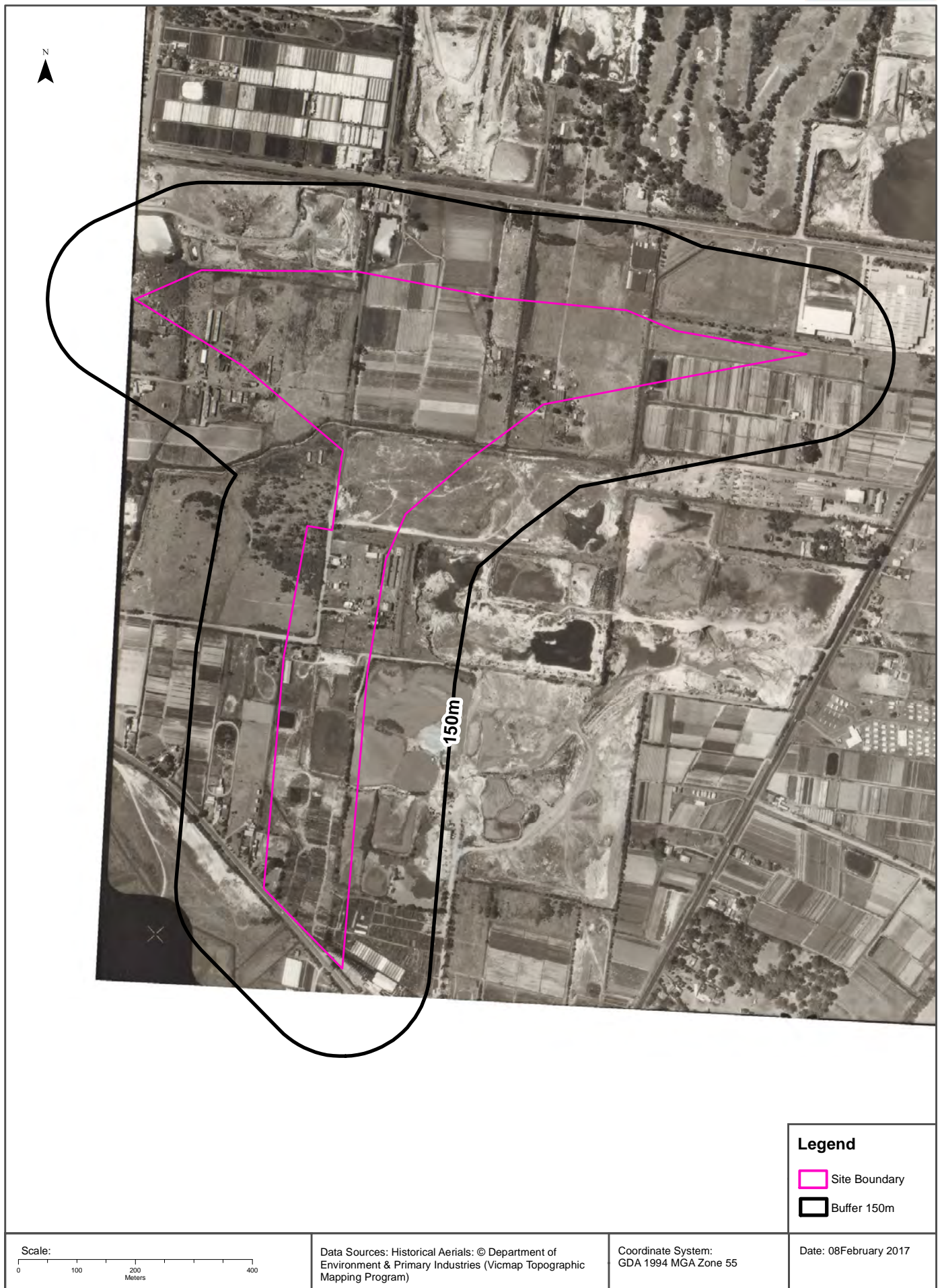
OSAR Proposed Road Alignments - Site 26 (Section 1)





# Aerial Imagery 1981

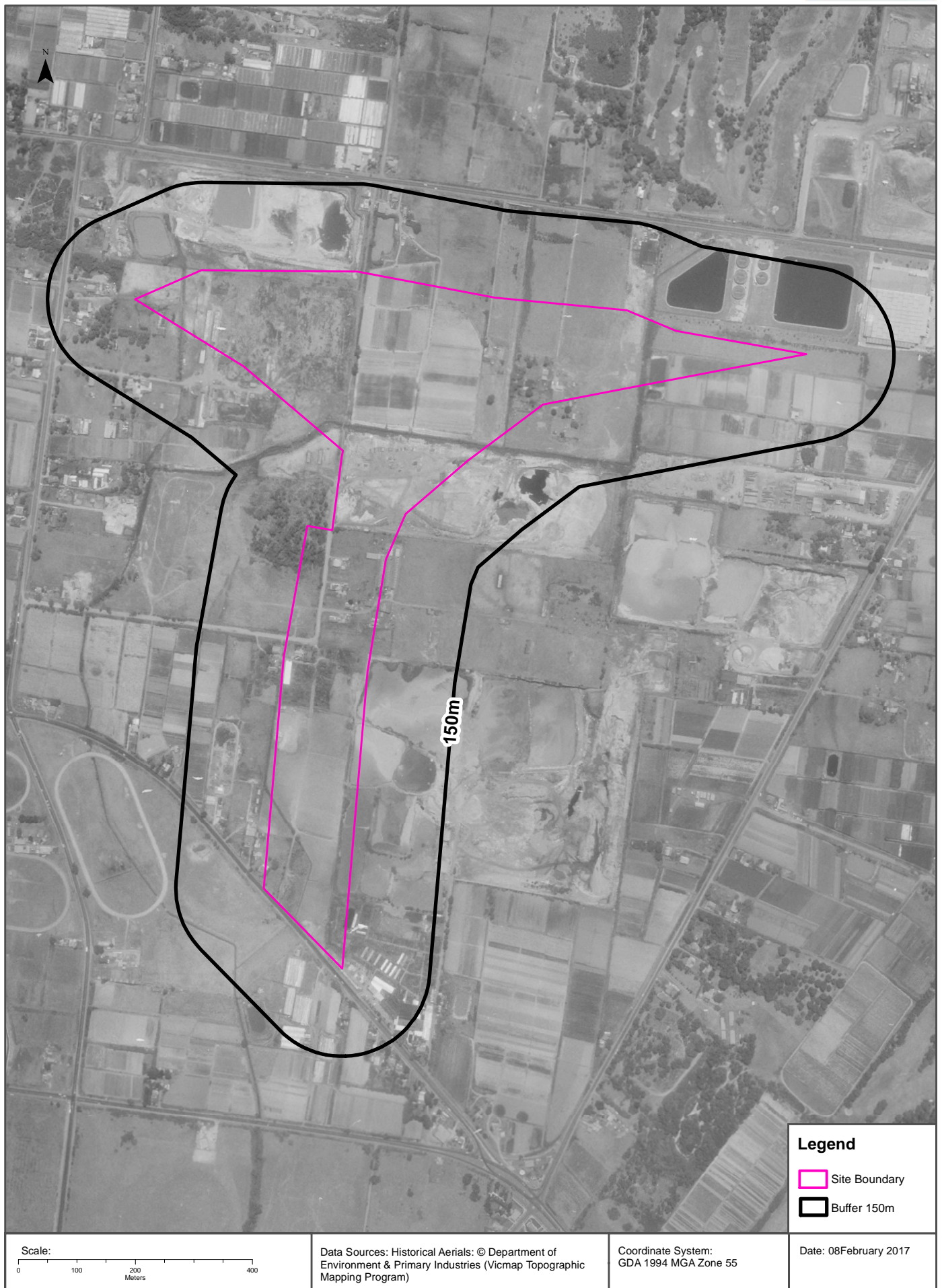
## OSAR Proposed Road Alignments - Site 26 (Section 1)





## Aerial Imagery 1974

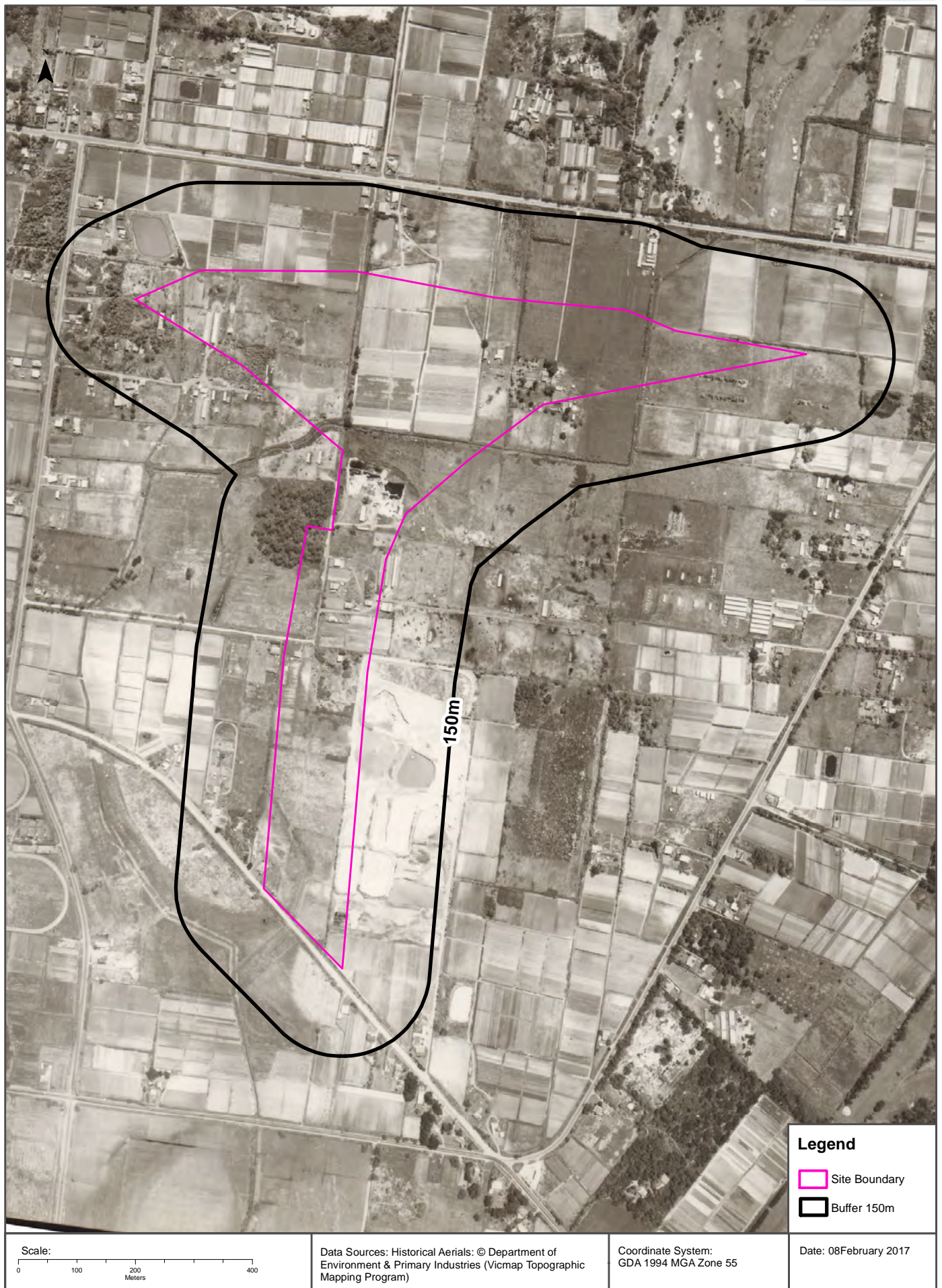
### OSAR Proposed Road Alignments - Site 26 (Section 1)





## Aerial Imagery 1963

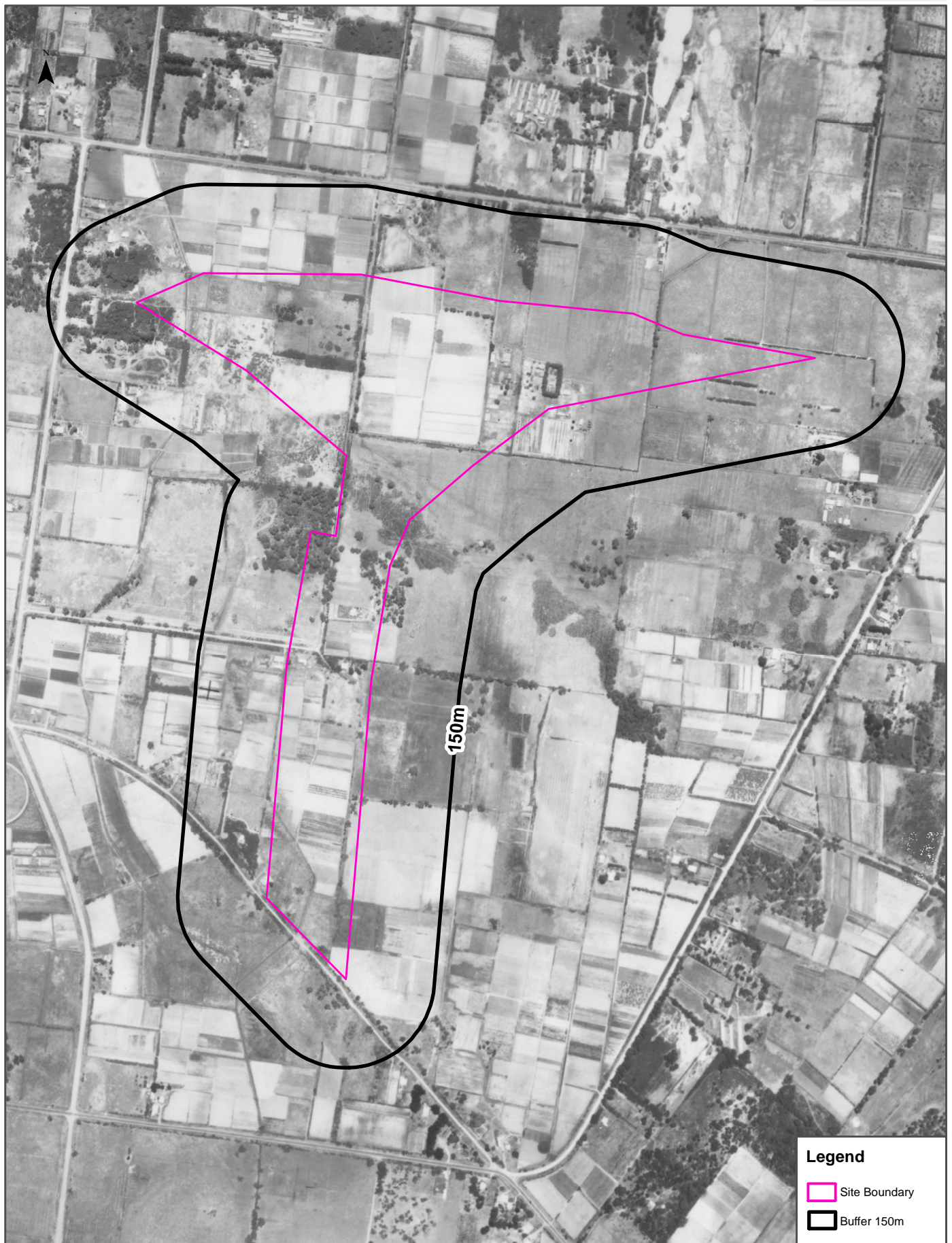
OSAR Proposed Road Alignments - Site 26 (Section 1)





## Aerial Imagery 1951

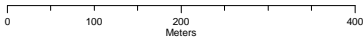
OSAR Proposed Road Alignments - Site 26 (Section 1)



### Legend

-  Site Boundary
-  Buffer 150m

Scale:



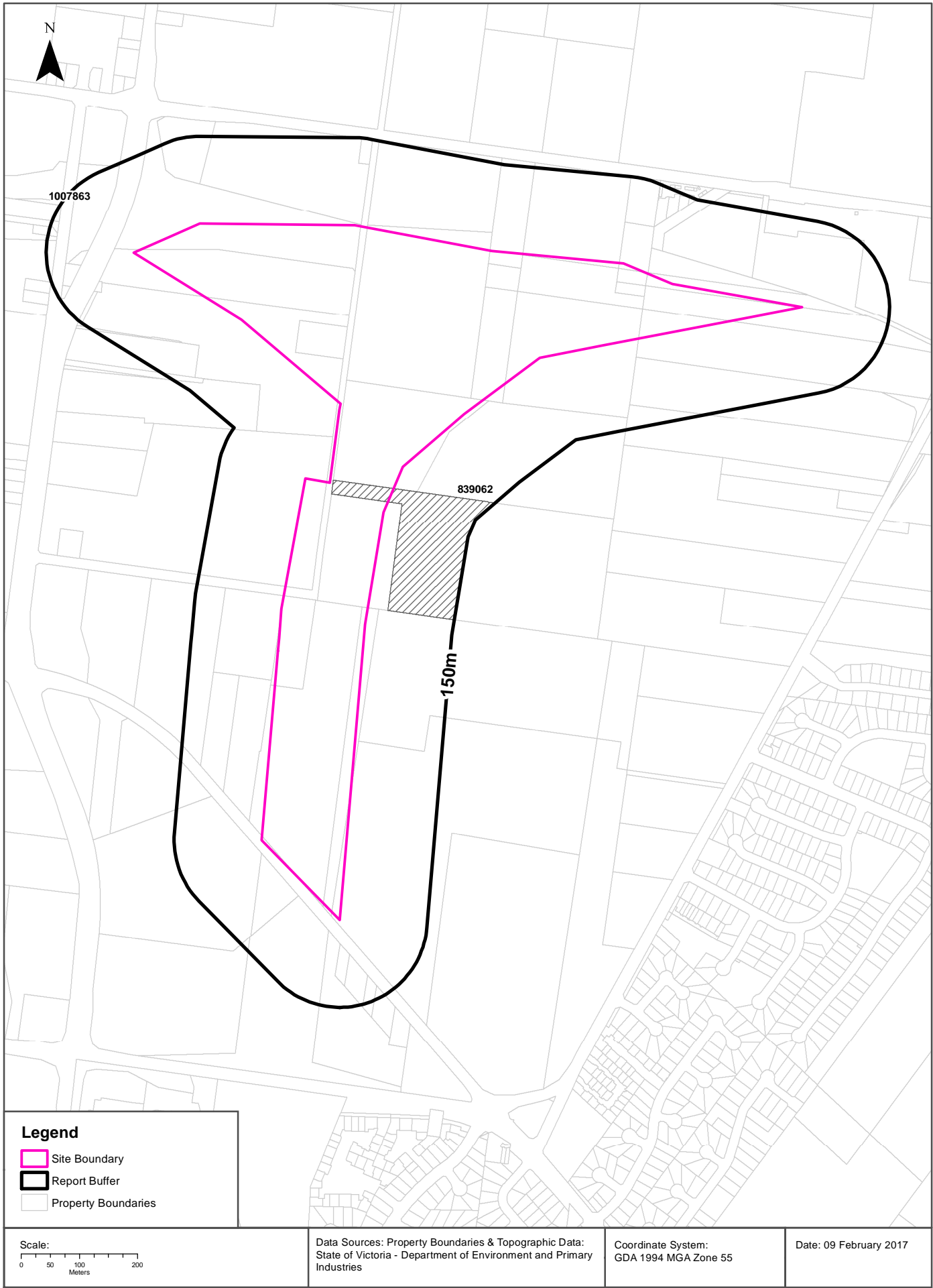
Data Sources: Historical Aerials: © Department of Environment & Primary Industries (Vicmap Topographic Mapping Program)

Coordinate System:  
GDA 1994 MGA Zone 55

Date: 08February 2017

Features of Interest

OSAR Proposed Road Alignments - Site 26 (Section 1)



## Features of Interest

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Features of Interest

Features of Interest within 1km of the site:

Feature Id	Feature Type	Feature Sub Type	Name	Distance	Direction
839062	dumping ground	landfill	Dingley	0m	Onsite
1007863	education centre	education complex		149m	North West

Features of Interest Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## Hydrogeology & Groundwater

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Hydrogeology

Description of aquifers within report buffer:

Description	Distance	Direction
Porous, extensive highly productive aquifers	0m	Onsite

Hydrogeology Map of Australia: Commonwealth of Australia (Geoscience Australia)

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## Groundwater Salinity

On-site Groundwater Salinity:

Groundwater Salinity	Percent Of Site Area
500 - 1,000 mg/l	82
Less than 500 mg/l	18

## Depth to Watertable

On-site Depth to Watertable:

Depth to Watertable	Percent Of Site Area
Less than 5 metres	84
5 to 10 metres	16

## Surface Elevation

Approximate on-site Surface Elevation:

Surface Elevation
17 AHDm to 31 AHDm

## Basement Elevation

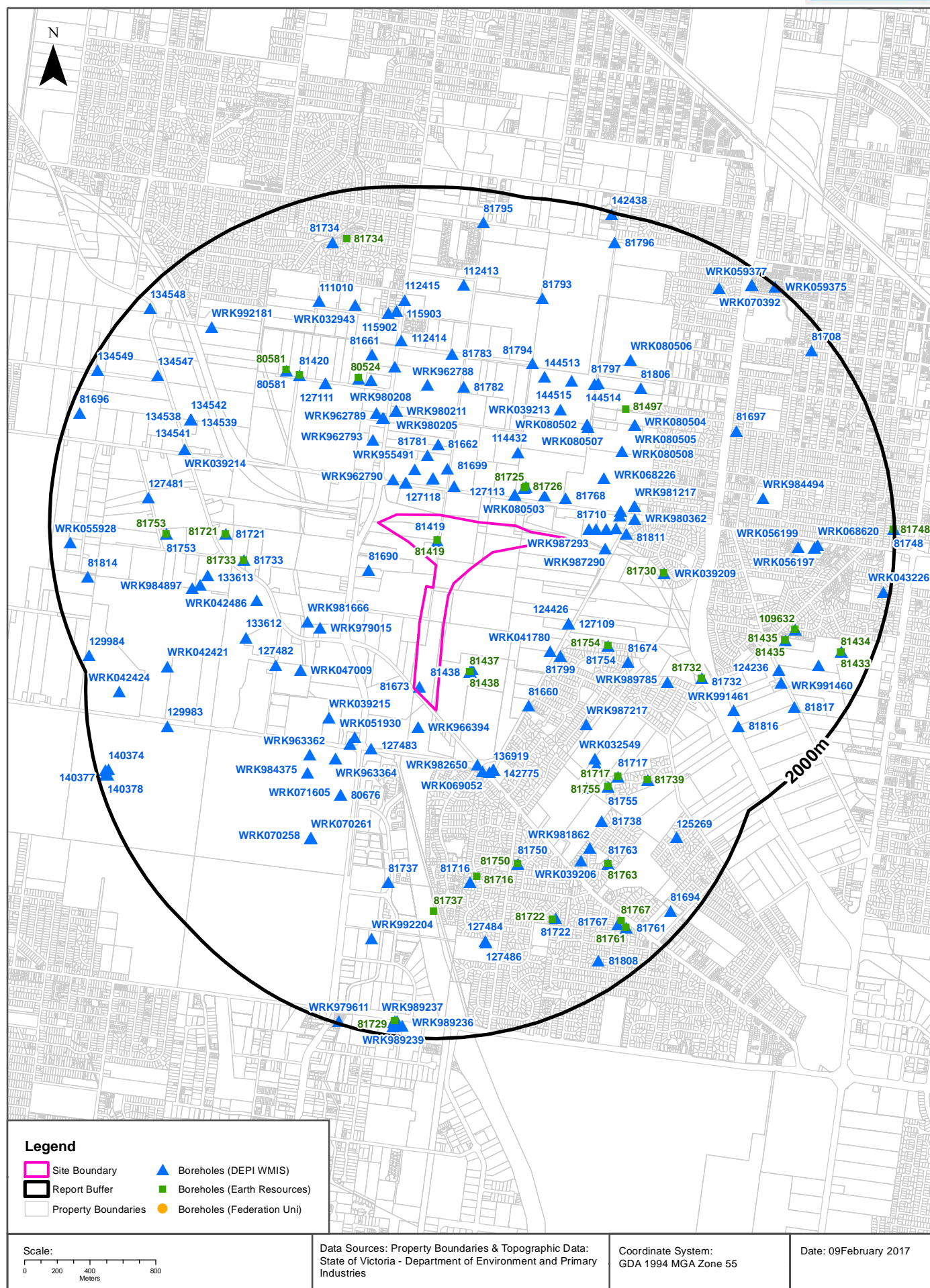
Approximate on-site Basement Elevation:

Basement Elevation - Basement Rocks comprise Lower Palaeozoic basement rocks that form the highlands and the crystalline basement; and Mesozoic rocks of the Otway and Gippsland basins both outcropping and subsurface
-26 AHDm to -10 AHDm

Groundwater Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

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### OSAR Proposed Road Alignments - Site 26 (Section 1)



# Groundwater Boreholes

## OSAR Proposed Road Alignments - Site 26 (Section 1)

### Boreholes (DEPI WMIS)

Boreholes from the Department of Environment and Primary Industries' Water Measurement Information System, within the report buffer:

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81673	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-1.22m SAND 1.22m-6.10m CLAYEY SAND 6.10m-6.40m SAND 6.40m-10.67m CLAY 10.67m-14.02m STICKY MARINE CLAY SAND 14.02m-18.29m SANDSTONE PIECES MARINE SILT SAND 18.29m-37.19m MARINE SILT CLAY 37.19m-38.71m DARK MARINE SHELL 38.71m-42.30m DARK MARINE SHELL LITTLE LIMESTONE				1970-01-06	0	Onsite
81419	Observation, State Observation Network	0.00m-1.50m TOP SOIL SAND 1.50m-4.60m CLAY AND SAND 4.60m-6.10m ORANGE CLAY SAND 6.10m-10.70m SANDY DARK CLAY 10.70m-22.90m GREEN CLAY SAND 22.90m-23.00m GRAVEL 23.00m-23.20m HARD BAR 23.20m-26.20m GREEN CLAY GRAVEL 26.20m-27.40m GREY CLAY 27.40m-39.60m GREEN SILTY CLAY WITH SHELLS 39.60m-42.98m CLAY MUD STONE	0.00m-42.98m INNER LINING - CASING = Pvc	Date/time: 1982-07-26 0000 Quality: 43 WLMP: 6.58m DBNS: 6.55m RWL: 20.12mAHD		1971-11-27	0	Onsite
WRK966394							146	South
WRK987293	Groundwater Investigation	0.00m-0.16m 0.16M CONCRETE 0.16m-0.30m FILL: SANDY GRAVEL 0.30m-0.80m FILL: SILTY SAND FINE GRAINED 0.80m-4.20m SILTY CLAY (CH) STIFF 4.20m-5.00m SANDY CLAY				2008-07-14	149	East
81438	Not Known					1985-09-20	187	South
81437	Not Known					1985-09-20	187	South
81421	Observation, State Observation Network	0.00m-1.20m SAND 1.20m-6.40m SANDY CLAY YELLOW 6.40m-7.90m SANDS DARK GREY 7.90m-14.90m GREEN MARL SANDY GRAVEL 14.90m-15.20m HARD STONE BAR 15.20m-21.30m GRAVEL CLAY SOME HARD BARS 21.30m-30.50m SILTY MARL GREEN 30.50m-32.00m SILTY MARL SAND GREYT MICA 32.00m-38.40m SILTY MARL SAND GREY 38.40m-39.90m DARKER SILTY CLAY 39.90m-42.10m GREEN MARL FIRM SHELLS 42.10m-44.20m HARD BAR STONE 44.20m-50.29m GREY CLAY TURNED TO STONE (BEDROCK)	0.00m-30.50m INNER LINING - CASING = Pvc 30.50m-42.70m INNER LINING - SCREEN = Pvc 42.70m-50.29m INNER LINING - CASING = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 25.90m-50.29m OUTER LINING - GRAVEL = Gravel	Date/time: 1991-12-04 0000 Quality: 43 WLMP: 4.21m DBNS: 3.34m RWL: 18.36mAHD	30.50m-42.70m Marl	1973-02-21	187	South
127114	Groundwater Investigation	0.00m-4.00m FINE GREY SAND 4.00m-7.00m YELLOW AND GREY CLAY 7.00m-9.50m GREY SANDY CLAY	0.20m-6.00m INNER LINING - CASING = Pvc 6.00m-8.00m INNER LINING - SCREEN = Pvc 8.00m-9.00m INNER LINING - CASING = Pvc 4.50m-5.50m OUTER LINING - GRAVEL = Bentonite 5.50m-9.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-08 0000 Quality: 47 WLMP: 4.61m DBNS: 3.82m RWL: 26.95mAHD		1995-12-07	187	North East



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
127113	Groundwater Investigation	0.00m-4.00m FINE GREY SAND 4.00m-7.00m YELLOW AND GREY CLAY 7.00m-9.50m GREY SANDY CLAY 9.50m-16.00m FINE GREY SAND 16.00m-19.00m FINE DARK GREY SAND 19.00m-20.00m LIGNIOUS CLAY	0.30m-17.00m INNER LINING - CASING = Pvc 17.00m-19.00m INNER LINING - SCREEN = Pvc 19.00m-20.00m INNER LINING - CASING = Pvc 15.50m-16.50m OUTER LINING - GRAVEL = Bentonite 16.50m-20.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-08 0000 Quality: 47 WLMP: 9.46m DBNS: 8.56m RWL: 22.21mAHD		1995-12-06	188	North East
WRK990436							190	North
WRK987292	Groundwater Investigation	0.00m-0.30m CONCRETE	0.00m-0.40m OUTER LINING - GRAVEL = Cement 0.40m-1.00m OUTER LINING - GRAVEL = Bentonite 1.00m-6.00m OUTER LINING - GRAVEL = Gravel			2008-07-15	191	East
127117	Groundwater Investigation	0.00m-1.00m GREY SAND 1.00m-2.50m YELLOW AND GREY CLAYEY SAND 2.50m-4.00m YELLOW AND GREY CLAY 4.00m-6.00m YELLOW AND GREY SANDY CLAY 6.00m-9.50m FINE SAND 9.50m-11.00m BROWN COAL 11.00m-15.50m MEDIUM SAND 15.50m-22.00m GREY SILTY CLAY 22.00m-30.00m MARL CLAY	0.00m-25.00m INNER LINING - CASING = Pvc 25.00m-27.00m INNER LINING - SCREEN = Pvc 27.00m-28.00m INNER LINING - CASING = Pvc 23.50m-24.50m OUTER LINING - GRAVEL = Bentonite 24.50m-28.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-08 0000 Quality: 47 WLMP: 6.39m DBNS: 6.45m RWL: 22.81mAHD		1995-12-13	194	North West
127118	Groundwater Investigation	0.00m-1.00m GREY SAND 1.00m-2.50m YELLOW AND GREY CLAYEY SAND 2.50m-4.00m YELLOW AND GREY CLAY 4.00m-6.00m YELLOW AND GREY SANDY CLAY 6.00m-9.50m FINE SAND 9.50m-10.50m BROWN COAL 10.50m-15.00m MEDIUM SAND 15.00m-16.00m GREY SILTY CLAY	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 10.50m-11.50m OUTER LINING - GRAVEL = Bentonite 11.50m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-07 0000 Quality: 47 WLMP: 1.40m DBNS: 1.44m RWL: 27.82mAHD		1995-12-14	195	North West
WRK046838						2006-08-10	197	South
WRK962790	Groundwater Investigation	0.00m-2.50m DARK BROWN SAND 2.50m-4.00m DARK ORANGE SAND 4.00m-7.00m WET SAND	0.00m-7.00m INNER LINING - CASING = Pvc			2003-09-29	216	North West
WRK962792	Groundwater Investigation	0.00m-2.50m LIGHT ORANGE SAND 2.50m-3.50m PALR GREY SAND 3.50m-7.00m GREY SILTY SAND 7.00m-10.00m FINE CLAYEY SAND 10.00m-11.70m FINE PALE GREY QUARTZ GRAVEL	0.00m-11.70m INNER LINING - CASING = Pvc			2003-09-29	220	North
WRK962791	Groundwater Investigation	0.00m-0.10m FILL, DARK GREY PEBBLY SAND 0.10m-1.00m LIGHT GREY SAND 1.00m-4.50m DARK GREY SAND 4.50m-5.00m FINE ORANGE SAND 5.00m-7.50m FINE PALE GREY SAND 7.50m-10.00m CLAYEY SAND 10.00m-12.00m LIGHT GREY/BROWN SAND 12.00m-15.00m CLAYEY SAND 15.00m-19.00m SILTY SAND 19.00m-24.50m FINE BROWN/GREY GRAVEL 24.50m-28.00m SILTY CLAY 28.00m-31.00m FINE SANDY GRAVEL 31.00m-33.00m CLAYEY SAND 33.00m-36.00m GRAVEL 36.00m-38.00m GRAVELLY SAND	30.00m-32.00m INNER LINING - CASING = Pvc 32.00m-38.00m INNER LINING - SCREEN = Pvc			2003-09-29	224	North
81725	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-3.00m SAND 3.00m-9.10m SANDY CLAY 9.10m-15.20m CLAYEY SAND AND LIGNITE 15.20m-16.80m CONSOLIDATED LIGNITE AND SAND 16.80m-17.10m COARSE SAND AND LIGNITE 17.10m-17.40m FINE SAND AND LIGNITE 17.40m-18.90m MEDIUM COARSE SAND AND LIGNITE 18.90m-22.30m SILT WITH LAYERS OF GREY CLAY 22.30m-23.50m MARINE CLAY 23.50m-24.40m COARSE SAND 24.40m-39.60m MARINE SILT 39.60m-43.90m GREY AND GREEN SANDSTONE				1983-04-28	235	North East
WRK080503	Observation	0.00m-3.00m CLAY 3.00m-12.00m SAND	0.00m-7.50m OUTER LINING - GRAVEL = Cement 7.50m-8.50m OUTER LINING - GRAVEL = Bentonite 8.50m-12.00m OUTER LINING - GRAVEL = Gravel		9.00m-12.00m Sand	2014-07-17	235	North East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81768	Not Known	0.00m-0.50m DARK BROWN SAND 0.50m-1.60m STIFF BROWN CLAY 1.60m-2.00m FIRM YELLOW-BROWN CLAY 2.00m-5.50m STIFF YELLOW-ORANGE CLAY AND FINE SAND 5.50m-8.50m GREY FINE TO COURSE SAND WITH DARK GREY CLAY LENSES	0.00m-7.80m INNER LINING - CASING = Pvc 7.80m-8.50m INNER LINING - SCREEN = Pvc 0.20m-8.50m OUTER LINING - GRAVEL = Gravel		7.80m-8.50m Sand	1985-09-24	240	North East
WRK987290	Groundwater Investigation	0.00m-0.70m FILL - GRAVEL 0.70m-1.20m BROWN SAND 1.20m-5.90m CLAYEY SAND 5.90m-7.00m SAND	0.00m-0.40m OUTER LINING - GRAVEL = Cement 0.40m-0.80m OUTER LINING - GRAVEL = Bentonite			2008-07-16	245	East
81726	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-5.80m SANDY CLAY 5.80m-17.10m CLAYEY SAND 17.10m-17.70m GREY CLAY 17.70m-19.50m SLOPPY GREY SANDY CLAY 19.50m-21.30m STICKY MARINE CLAY 21.30m-21.90m FINE MARINE CLAYEY SAND 21.90m-22.60m FINE MARINE SAND 22.60m-23.80m MARINE SILT				1983-05-09	247	North East
81710	Irrigation	0.00m-1.00m FIRM CLAYEY SAND 1.00m-6.10m VEREY STIFF SANDY CLAY 6.10m-15.20m SOFT CLAYEY SAND 15.20m-26.00m COARSE & FINE SAND 26.00m-29.00m BLUE SILT LIMESTONE PIECES & COARSE SAND 29.00m-30.50m HARD LIMESTONE BROKEN & SOME SAND 30.50m-33.50m MEDIUM HARD BLUE SHALE (CLAYEY) 33.50m-82.50m MEDIUM HARD BLUE SHALE WITH HARD LAYERS OF SANDSTONE 82.50m-152.50m HARD SANDSTONE	0.00m-34.00m INNER LINING - CASING = Steel 0.00m-76.50m INNER LINING - CASING = Steel 76.50m-152.50m INNER LINING - SCREEN = Steel			1979-01-12	251	East
81690	Not Known	0.00m-16.76m GREENY GREY CLAYEY SAND	0.00m-16.76m INNER LINING - CASING = Not Known 10.67m-16.76m INNER LINING - SCREEN = Not Known			1973-02-11	274	West
WRK955491						2006-02-10	279	North
81699	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-2.74m SAND 2.74m-9.75m SANDY CLAY 9.75m-23.47m SAND WITH LAYER CLAY 23.47m-47.24m MARINE SILT LITTLE SHELL				1973-11-05	287	North
WRK987291	Groundwater Investigation	0.00m-0.30m FILL - GRAVEL 0.30m-4.60m SANDY CLAY 4.60m-6.00m CLAYEY SAND 6.00m-6.50m SAND	0.00m-0.70m OUTER LINING - GRAVEL = Cement 0.70m-1.50m OUTER LINING - GRAVEL = Bentonite 1.50m-6.50m OUTER LINING - GRAVEL = Gravel			2008-07-14	309	East
WRK981683							353	East
81781	Not Known	0.00m-3.40m NO RETURNS 3.40m-4.90m SAND FINE/MEDIUM 4.90m-6.40m NO RETURNES 6.40m-11.00m SAND FINE/CLAYEY 11.00m-12.50m SAND FINE/MEDIUM 12.50m-26.20m SAND MEDIUM/COARSE LIGNEOUS 26.20m-32.30m SAND FINE/COARSE GRAVEL 32.30m-33.10m CLAY SANDY 33.10m-36.40m SAND GRAVEL CALCAREOUS NODULES 36.40m-36.90m CLAY SILTY 36.90m-41.50m SAND FINE SILTY 41.50m-42.20m SAND MED/COARSE 42.20m-46.00m SAND FINE SILTY CLAYEY 46.00m-47.60m SAND FINE LIMESTONE FRAGMENTS CALCAREOUS BANDS	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-33.00m INNER LINING - SCREEN = Pvc 33.00m-47.60m INNER LINING - CASING = Pvc		3.00m-33.00m Sand	1990-02-03	363	North
81811	Not Known					1988-01-01	366	East
WRK986702	Domestic & Stock	0.00m-0.10m TOP SOIL 0.10m-7.50m SANDY CLAYS	0.00m-8.00m INNER LINING - CASING = Pvc Class 18 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-7.50m OUTER LINING - GRAVEL = Bentonite			2008-06-17	371	East
WRK982650							415	South
81662	Domestic					1970-12-31	431	North
WRK980362							434	East



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK068226	Observation	0.00m-9.00m CLAY	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-9.00m INNER LINING - SCREEN = Pvc 0.00m-1.50m OUTER LINING - GRAVEL = Cement 1.50m-2.50m OUTER LINING - GRAVEL = Bentonite 3.50m-9.00m OUTER LINING - GRAVEL = Gravel		3.00m-9.00m Clay	2012-02-02	434	North East
127483	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m FINE GREY SAND 1.00m-2.00m LIGHT ORANGE CLAY 2.00m-4.00m YELLOW AND GREY SANDY CLAY 4.00m-10.00m LIGHT BROWN SANDY CLAY 10.00m-12.00m ORANGE CLAYEY SAND 12.00m-15.00m GREY SAILTY CLAY	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 11.00m-12.00m OUTER LINING - GRAVEL = Bentonite 12.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1104 Quality: 43 WLMP: 5.29m DBNS: 5.34m RWL: 12.46mAHd		1996-04-18	440	South West
114432	Groundwater Investigation	0.00m-12.00m SAND GREY / BROWN MEDIUM 12.00m-23.50m COARSE SAND SOME GRAVEL GREY	-0.50m-8.00m INNER LINING - CASING = Pvc 8.00m-23.50m INNER LINING - SCREEN = Pvc 0.00m-6.00m OUTER LINING - GRAVEL = Cement 6.00m-7.00m OUTER LINING - GRAVEL = Bentonite 7.00m-23.00m OUTER LINING - GRAVEL = Gravel		8.00m-23.50m Sand	1992-08-04	449	North East
WRK057334	Domestic & Stock	67.00m-68.00m siltstone	0.00m-61.50m INNER LINING - CASING = Pvc 61.50m-67.50m INNER LINING - SCREEN = Pvc 67.50m-68.00m INNER LINING - CASING = Pvc 45.00m-48.00m OUTER LINING - GRAVEL = Cement 58.00m-60.00m OUTER LINING - GRAVEL = Bentonite 60.00m-61.00m OUTER LINING - GRAVEL = Seal		61.50m-67.50m Siltstone	2010-06-02	457	East
WRK981217							460	East
WRK069052	Observation	0.00m-0.40m FILL 0.40m-9.50m CLAY	0.00m-6.00m INNER LINING - CASING = Pvc 6.00m-9.00m INNER LINING - SCREEN = Pvc 9.00m-9.50m INNER LINING - CASING = Pvc 0.00m-5.00m OUTER LINING - GRAVEL = Cement 5.00m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-9.00m OUTER LINING - GRAVEL = Gravel		9.00m-9.50m Clay	2012-08-17	466	South
WRK051930	Observation	0.00m-6.00m clay	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 1.00m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-6.00m OUTER LINING - GRAVEL = Gravel		0.00m-3.00m Clay 3.00m-6.00m Clay	2009-10-21	466	South West
WRK962793	Groundwater Investigation	0.00m-2.00m DARK BROWN/GREY SAND 2.00m-4.00m ORANGE/BROWN SAND 4.00m-7.00m FINE GREY SAND 7.00m-7.50m COARSE SAND 7.50m-8.50m PALE GREY SANDY SILT 8.50m-12.50m SILTY SAND 12.50m-13.00m BLACK SILTY SAND	0.00m-13.00m INNER LINING - CASING = Pvc			2003-09-29	481	North West
WRK991278	Groundwater Investigation	0.00m-0.30m topsoil 0.30m-1.50m sand 1.50m-3.60m sandstone 3.60m-8.20m sand	0.00m-4.20m INNER LINING - CASING = Pvc 4.20m-8.20m INNER LINING - SCREEN = Pvc 0.00m-2.50m OUTER LINING - GRAVEL = Cement 2.50m-3.70m OUTER LINING - GRAVEL = Bentonite 3.70m-8.20m OUTER LINING - GRAVEL = Gravel			2009-05-08	493	South
136917	Groundwater Investigation	0.00m-0.80m SANDY SILT, BROWN, MOIST FILL 0.80m-1.00m SAND CLAY, ORANGE BROWN, PALE BROWN, YELLOW BROWN, STIFF, MO 1.00m-7.50m CLAYEY SAND FINE AND MEDIUM SAND, RED BROWN, YELLOW BROWN AN	0.00m-3.50m INNER LINING - CASING = Pvc Class 18 3.50m-7.50m INNER LINING - SCREEN = Pvc Class 18 0.00m-0.20m OUTER LINING - GRAVEL = Cement 2.30m-3.00m OUTER LINING - GRAVEL = Bentonite 3.00m-7.50m OUTER LINING - GRAVEL = Gravel			1998-10-06	503	South

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
136918	Groundwater Investigation	0.00m-0.80m SANDY SILT, BROWN, DENSE, MOIST FILL 0.80m-7.50m CLAYEY SAND, FINE AND MEDIUM SAND, RED BROWN, YELLOW BROWN,	0.00m-4.00m INNER LINING - CASING = Pvc Class 18 4.00m-7.50m INNER LINING - SCREEN = Pvc Class 18 0.00m-0.20m OUTER LINING - GRAVEL = Cement 2.40m-3.00m OUTER LINING - GRAVEL = Bentonite 3.00m-7.50m OUTER LINING - GRAVEL = Gravel			1998-10-06	503	South
142774	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	503	South
142769	Groundwater Investigation	0.00m-4.00m CLAYEY SAND 4.00m-5.00m SILTY SAND 5.00m-11.00m CLAYEY SAND	0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SCREEN = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel		6.50m-11.00m Sand	1998-08-12	503	South
142773	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	503	South
142771	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	503	South
142768	Groundwater Investigation	0.00m-4.00m CLAYEY SAND 4.00m-5.00m SILTY SAND 5.00m-11.00m CLAYEY SAND	0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SCREEN = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel		6.50m-11.00m Sand	1998-08-12	503	South
142770	Groundwater Investigation	0.00m-4.00m CLAYEY SAND 4.00m-5.00m SILTY SAND 5.00m-11.00m CLAYEY SAND	0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SCREEN = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel		6.50m-11.00m Sand	1998-08-12	503	South
136919	Groundwater Investigation	0.00m-0.90m SILTY SAND, BROWN, MOIST FILL 0.90m-7.50m CLAYEY SAND RED BROWN, YELLOW BROWN AND PAIL GREY, MEDIUM GR	0.00m-4.00m INNER LINING - CASING = Pvc Class 18 4.00m-7.50m INNER LINING - SCREEN = Pvc Class 18 0.00m-0.20m OUTER LINING - GRAVEL = Cement 2.30m-3.00m OUTER LINING - GRAVEL = Bentonite 3.00m-7.50m OUTER LINING - GRAVEL = Gravel			1998-10-06	503	South
142772	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc			1998-10-22	503	South
142775	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-7.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	503	South
124426	Groundwater Investigation			Date/time: 1996-09-26 0000 Quality: 47 WLMP: 3.76m DBNS: 2.75m RWL: 27.60mAHD		1995-04-07	510	East



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
127109	Groundwater Investigation	0.00m-9.00m BACK FILL FROM TIP 9.00m-16.00m GREY CLAYEY SAND 16.00m-19.00m GREY SILTY CLAY 19.00m-20.00m MUDSTONE 20.00m-30.00m SANDY MARL	0.30m-27.00m INNER LINING - CASING = Pvc 27.00m-29.00m INNER LINING - SCREEN = Pvc 29.00m-30.00m INNER LINING - CASING = Pvc 25.50m-26.50m OUTER LINING - GRAVEL = Bentonite 26.50m-30.00m OUTER LINING - GRAVEL = Gravel			1995-11-24	513	East
WRK986516							514	South West
WRK039215	Irrigation	0.00m-5.60m STIFF YELLOW/BROWN CLAY 5.60m-10.70m GREY FINE TO MEDIUM GRAINED SAND 10.70m-29.70m YELLOW/GREY FIRM CLAYEY SAND 29.70m-40.02m YELLOW/WHITE VERY LOOSE COARSE GRAINED SAND &	0.00m-30.00m INNER LINING - CASING = Pvc 30.00m-39.50m INNER LINING - SCREEN = Pvc 39.50m-40.02m INNER LINING - CASING = Pvc 39.00m-40.02m OUTER LINING - GRAVEL = Gravel		30.00m-39.50m Sand	1990-02-20	546	South West
81660	Not Known					1970-12-31	559	South East
WRK069758	Observation					2012-08-03	593	North West
WRK069757	Observation					2012-08-02	593	North West
WRK069756	Observation					2012-08-02	593	North West
WRK069754	Observation	0.00m-5.00m CLAY	0.00m-2.00m INNER LINING - CASING = Pvc 2.00m-5.00m INNER LINING - SCREEN = Pvc 0.00m-1.50m OUTER LINING - GRAVEL = Bentonite 1.50m-5.00m OUTER LINING - GRAVEL = Gravel		2.00m-5.00m Clay	2012-08-02	594	North West
WRK069755	Observation					2012-08-02	595	North West
WRK979015							601	West
WRK080508	Observation	0.00m-1.00m CLAY 1.00m-15.00m FILL 15.00m-20.00m SAND	0.00m-15.50m OUTER LINING - GRAVEL = Cement 15.50m-16.50m OUTER LINING - GRAVEL = Bentonite 16.50m-20.00m OUTER LINING - GRAVEL = Gravel		17.00m-20.00m Sand	2014-07-17	629	North East
WRK039209	Irrigation	0.00m-0.60m TOP SOIL 0.60m-3.00m SANDY CLAY RED 3.00m-27.40m COARSE SAND AND CLAY 27.40m-36.50m CLAY 36.50m-38.40m PEAT 38.40m-60.96m SANDSTONE	0.00m-38.40m INNER LINING - CASING = Steel 38.40m-60.96m INNER LINING - SCREEN = Steel		38.40m-60.96m Sandstone	1983-02-22	632	East
WRK980213	Domestic & Stock		0.00m-23.00m INNER LINING - CASING = Pvc 23.00m-26.00m INNER LINING - SLOT = Pvc 0.00m-21.00m OUTER LINING - GRAVEL = Cement 21.00m-22.00m OUTER LINING - GRAVEL = Bentonite 22.00m-26.00m OUTER LINING - GRAVEL = Gravel			2007-04-05	632	North
WRK980210	Domestic & Stock		0.00m-14.00m INNER LINING - CASING = Pvc 14.00m-18.00m INNER LINING - SLOT = Pvc 0.00m-11.50m OUTER LINING - GRAVEL = Cement 11.50m-13.00m OUTER LINING - GRAVEL = Bentonite 13.00m-18.00m OUTER LINING - GRAVEL = Gravel			2007-04-03	632	North
WRK980211	Domestic & Stock		0.00m-7.00m INNER LINING - CASING = Pvc 7.00m-11.50m INNER LINING - SLOT = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.50m OUTER LINING - GRAVEL = Bentonite 6.50m-11.50m OUTER LINING - GRAVEL = Gravel			2007-04-02	632	North
WRK980212	Domestic & Stock		0.00m-14.00m INNER LINING - CASING = Pvc 14.00m-18.00m INNER LINING - SLOT = Pvc 0.00m-11.50m OUTER LINING - GRAVEL = Cement 11.50m-13.00m OUTER LINING - GRAVEL = Bentonite 13.00m-18.00m OUTER LINING - GRAVEL = Gravel			2007-04-03	632	North

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK980205	Domestic & Stock		0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SLOT = Pvc 0.00m-5.00m OUTER LINING - GRAVEL = Cement 5.00m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel			2007-04-02	632	North
WRK980208	Domestic & Stock		0.00m-7.00m INNER LINING - CASING = Pvc 7.00m-11.50m INNER LINING - SLOT = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.50m OUTER LINING - GRAVEL = Bentonite 6.50m-11.50m OUTER LINING - GRAVEL = Gravel			2007-04-02	632	North
WRK980209	Domestic & Stock		0.00m-23.00m INNER LINING - CASING = Pvc 23.00m-26.00m INNER LINING - SLOT = Pvc 0.00m-21.00m OUTER LINING - GRAVEL = Cement 21.00m-22.00m OUTER LINING - GRAVEL = Bentonite 22.00m-26.00m OUTER LINING - GRAVEL = Gravel			2007-04-05	632	North
WRK962789	Groundwater Investigation	0.00m-0.10m GARDEN BED, GRASS & MULCH 0.10m-2.00m FINE BLACK/GREY SAND 2.00m-4.00m FINE SAND 4.00m-5.00m DARK BROWN SAND 5.00m-8.00m PALE SAND 8.00m-11.50m CLAYEY SAND 11.50m-14.00m BROWN SAND	0.00m-14.00m INNER LINING - CASING = Pvc			2003-09-29	633	North West
WRK963364							641	South West
WRK963363							641	South West
WRK041780	Dairy						655	South East
WRK981666							679	West
WRK080507	Observation	0.00m-3.00m CLAY 3.00m-10.00m CLAY/SAND	0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.50m OUTER LINING - GRAVEL = Bentonite 6.50m-10.00m OUTER LINING - GRAVEL = Gravel		7.00m-10.00m Sand	2014-07-17	691	North East
81799	Domestic, Stock					1988-01-01	694	South East
WRK047009							697	South West
81754	Not Known	0.00m-2.00m FINE BLACK SAND 2.00m-8.00m FINE/MED MUDDY ORANGE SAND 8.00m-8.10m LIGNITE 8.10m-30.00m FINE MUDDY GREY SAND				1983-05-10	702	South East
WRK080502	Observation	0.00m-4.00m CLAY 4.00m-35.00m CLAY/SAND 35.00m-42.00m SILTSTONE	0.00m-39.00m INNER LINING - CASING = Pvc Class 9 0.00m-37.00m OUTER LINING - GRAVEL = Cement 37.00m-38.00m OUTER LINING - GRAVEL = Bentonite 38.00m-42.00m OUTER LINING - GRAVEL = Gravel		39.00m-42.00m Siltstone	2014-07-17	705	North East
WRK963362	Domestic & Stock					2005-11-07	752	South West
WRK039213	Miscellaneous	0.00m-0.30m TOP SOIL 0.30m-2.40m GREY CLAY & FINE SAND 2.40m-3.60m YELLOW CLAY 3.60m-6.60m CLAY & FINE SAND 6.60m-12.10m COARSE SAND & PET 12.10m-24.00m FINE WHITE SAND 24.00m-33.40m SAND & CLAY 33.40m-40.00m FINE SAND 40.00m-43.50m GREY SANDSTONE 43.50m-76.00m BLUE/GREY SAND,STONE WITH FRACTURES	0.00m-41.00m INNER LINING - CASING = Mild Steel 42.50m-68.00m INNER LINING - SCREEN = Mild Steel			1989-10-23	760	North East
80676	Not Known					1988-01-01	773	South West
WRK071605	Irrigation					2012-10-02	773	South West



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK962788	Groundwater Investigation	0.00m-4.00m FINE GRAIN SAND 4.00m-5.50m FINE LIGHT GREY SAND 5.50m-6.00m LIGHT GREY CLAYEY SAND 6.00m-11.00m FINE PALE GREY SAND 11.00m-13.00m GREY SAND 13.00m-16.00m GRAVEL				2003-09-25	792	North
81782	Not Known	0.00m-1.80m NO RETURNS 1.80m-4.90m SAND FINE SILTY ORANGE 4.90m-6.40m NO RETURNS 6.40m-10.20m SAND COARSE WHITE SILTY 10.20m-20.70m SAND MED TO COARSE BROWN 20.70m-20.80m SAND MED TO COARSE GRAVEL GREY 20.80m-26.80m SAND GINE SILTY GREY 26.80m-27.30m GRAVEL GREY 27.30m-28.20m SAND MED SILTY GREY/GREEN 28.20m-28.80m GRAVEL/SAND MED TO COARSE 28.80m-29.30m CLAY SILTY GREEN 29.30m-30.80m SAND FINE TO COARSE GREEN 30.80m-31.40m SAND MED CLAYEY GREEN 31.40m-33.80m SAND COARSE MINOR GRAVEL 33.80m-41.50m SILT SAND CLAY CALCAREOUS BANDS CLAY NODULES	0.00m-8.00m INNER LINING - CASING = Pvc 8.00m-33.00m INNER LINING - SCREEN = Pvc 33.00m-41.50m INNER LINING - CASING = Pvc		8.00m-33.00m Sand	1990-02-06	796	North
WRK080505	Observation	0.00m-4.50m CLAY 4.50m-6.70m CLAY/SAND 6.70m-10.00m SAND	0.00m-0.30m OUTER LINING - GRAVEL = Cement 0.30m-5.50m OUTER LINING - GRAVEL = Bentonite 5.50m-10.00m OUTER LINING - GRAVEL = Gravel		7.00m-10.00m Sand	2014-07-03	807	North East
WRK080504	Observation	0.00m-4.50m CLAY 4.50m-6.70m CLAY/SAND 6.70m-10.00m SAND	0.00m-0.30m OUTER LINING - GRAVEL = Cement 0.30m-4.50m OUTER LINING - GRAVEL = Bentonite 4.50m-5.50m OUTER LINING - GRAVEL = Bentonite 5.50m-10.00m OUTER LINING - GRAVEL = Gravel		7.00m-10.00m Sand	2014-07-03	807	North East
WRK984375							825	South West
WRK042465	Irrigation					1970-12-31	837	North
81674	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-1.52m CLAY 1.52m-3.35m SANDY CLAY 3.35m-6.10m SLOPPY CLAYEY SAND 6.10m-7.62m CLAY MOTTLEY 7.62m-10.67m BROWN CLAYEY SAND 10.67m-11.28m BLACK CLAY 11.28m-17.07m MARINE STICKY SAND CLAY 17.07m-27.32m MARINE SAND CLAY SILT 27.32m-29.26m BROWN COAL CLAY 29.26m-38.71m DARK MARINE CLAY LITTLE SHELL 38.71m-39.32m SHELL MARINE CLAY WITH FEW PEBBLES 39.32m-40.23m SILT BROWN CLAY MUDSTONE WITH THIS LAYERS SANDSTONE 40.23m-50.90m SANDSTONE				1970-01-06	842	South East
81733	Not Known	0.00m-0.35m TOP SANDY LOAM 0.35m-12.19m GREEN AND YELLOW CLAY 12.19m-13.00m BROWN WATER BEARING SANDY CLAY 13.00m-21.34m SOFT SANDY CLAY 21.34m-24.60m WATER BEARING GREY SANDY CLAY 24.60m-39.49m MEDIUM HARD SANDY CLAY	0.00m-24.38m INNER LINING - CASING = Galvanised Iron 24.38m-39.49m INNER LINING - SCREEN = Galvanised Iron		24.38m-39.49m Clay	1983-02-20	848	West
127482	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m YELLOW AND GREY CLAY 1.00m-8.00m YELLOW SANDY CLAY 8.00m-15.00m SANDY MARL	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 11.00m-12.00m OUTER LINING - GRAVEL = Bentonite 12.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1124 Quality: 43 WLMP: 7.28m DBNS: 7.30m RWL: 11.34mAH		1996-04-16	851	South West

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
80524	Not Known	0.00m-1.00m TOP SOIL 1.00m-8.00m GREY AND ORANGE CLAY 8.00m-9.00m BROWN MED COARSE SAND 9.00m-14.00m BROWN FINE/MED/COARSE SAND AND LIGNETIC SAND 14.00m-20.00m SANDY GREY AND ORANGE CLAY 20.00m-45.00m GREEN SILT AND LIMESTONE LAYERS 45.00m-46.00m DARK GREY SILTY CLAY 46.00m-51.00m GREEN SILT 51.00m-57.00m BROWN AND GREY CLAY AND WOOD 57.00m-59.00m COAL 59.00m-63.50m GREEN SILT AND GREY CLAY 63.50m-64.20m GRANODORITE				1983-09-29	862	North West
WRK042486	Irrigation	0.00m-0.30m TOP SOIL 0.30m-6.00m CLAY 6.00m-14.00m SANDY CLAY 14.00m-26.00m MARL 26.00m-39.00m LIMESTONE AND CLAY 39.00m-43.00m MARL 43.00m-80.00m SHALE 80.00m-181.00m VERY HARD SHALE	0.00m-63.00m INNER LINING - CASING = Pvc 63.00m-110.00m INNER LINING - CASING = Pvc 10.00m-15.00m OUTER LINING - GRAVEL = Cement 15.00m-62.50m OUTER LINING - GRAVEL = Bentonite 62.50m-63.00m OUTER LINING - GRAVEL = Seal		110.00m-181.00m Shale	2004-03-06	873	West
81780	Not Known	0.00m-6.10m NO RETURNS 6.10m-9.10m CLAY 9.10m-11.40m SAND 11.40m-15.20m SAND LIGNEOUS NODULES 15.20m-16.80m SAND MINOR GRAVEL 16.80m-18.30m NO RETURNS 18.30m-22.10m SAND MINOR GRAVEL 22.10m-22.90m SAND 22.90m-24.40m NO RETURNS 24.40m-29.70m SAND MINOR GRAVEL 29.70m-30.50m CLAY 30.50m-36.60m SAND 36.60m-41.20m SAND CLAYEY/SILTY	0.00m-7.70m INNER LINING - CASING = Pvc 7.70m-28.70m INNER LINING - SCREEN = Pvc 28.70m-41.20m INNER LINING - CASING = Pvc		7.70m-28.70m Sand	1990-01-31	901	North
127111	Groundwater Investigation	0.00m-2.00m FINE GREY SAND 2.00m-4.20m BROWN AND GREY CLAY 4.20m-7.20m YELLOW AND GREY SANDY CLAY 7.20m-10.20m FINE GREY SAND 10.20m-10.50m DARK GREY CLAY	0.00m-7.50m INNER LINING - CASING = Pvc 7.50m-9.50m INNER LINING - SCREEN = Pvc 9.50m-10.50m INNER LINING - CASING = Pvc 6.00m-7.00m OUTER LINING - GRAVEL = Bentonite 7.00m-10.50m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-07 0000 Quality: 47 WLMP: 5.47m DBNS: 5.54m RWL: 27.40m AHD		1995-11-30	905	North West
127110	Groundwater Investigation	0.00m-2.00m FINE GREY SAND 2.00m-4.00m BROWN AND GREY SAND 4.00m-7.00m YELLOW AND GREY SANDY CLAY 7.00m-10.20m FINE GREY SAND 10.20m-11.00m DARK GREY CLAY 11.00m-19.00m FINE SAND 19.00m-23.00m FINE SAND AND GRAVEL 23.00m-25.00m FINE CLAYEY SAND 25.00m-30.00m SANDY CLAY	0.00m-17.00m INNER LINING - CASING = Pvc 17.00m-19.00m INNER LINING - SCREEN = Pvc 19.00m-20.00m INNER LINING - CASING = Pvc 15.50m-16.50m OUTER LINING - GRAVEL = Bentonite 16.50m-20.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-07 0000 Quality: 47 WLMP: 8.31m DBNS: 8.35m RWL: 24.59m AHD		1995-11-30	908	North West
WRK987217							918	South East
144513	Groundwater Investigation	0.00m-0.30m FILL & SAND 0.30m-1.00m SAND WITH CLAY 1.00m-9.00m SILTY SAND WITH CLAY 9.00m-18.50m SAND WITH ORANGE BROWN CLAY 18.50m-23.00m SILTY SAND MEDIUM TO COARSE SAND 23.00m-29.00m SANDY SILT, FINE SAND, DARK GREY SILT, CLEAR QUARTZ SAND 29.00m-35.00m SILTY SAND MEDIUM TO COARSE 35.00m-43.60m SANDY SILT, FINE SAND, GREY TO GREEN CLAY 43.60m-51.60m SILTSTONE MEDIUM STRENGTH	0.00m-45.60m INNER LINING - CASING = Pvc Class 18 45.60m-51.60m INNER LINING - SCREEN = Pvc Class 18			1996-02-13	925	North East
81721	Stock	0.00m-0.35m TOP SANDY LOAM 0.35m-3.00m GREY CLAY 3.00m-7.00m BROWN SOFT CLAY 7.00m-9.50m GREEN CLAY 9.50m-16.20m HARD BROWN SANDY COAL CLAY 16.20m-21.00m WATER BEARING HARD AND MEDIUM HARD SANDSTONE 21.00m-27.00m SOFT SANDSTONE 27.00m-30.00m VERY SOFT GREEN SANDY CLAY 30.00m-33.00m WATER BEARING GRAVELY SOFT CLAY	0.00m-29.50m INNER LINING - CASING = Not Known 29.50m-31.20m INNER LINING - SCREEN = Not Known		29.50m-31.20m Sandstone	1983-01-05	929	West



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
144515	Groundwater Investigation	0.00m-0.30m SILTY SAND, FINE TO MEDIUM SAND 0.30m-1.60m SANDY CLAY FINE TO COARSE SAND 1.60m-4.80m SILTY SAND WITH CLAY, FINE TO COARSE SAND, PALE GREY 4.80m-18.00m SAND FINE TO COARSE 18.00m-20.50m SILTY SAND, COARSE SAND, DARK GREY BROWN SILT, CLEAR TO PALE	0.00m-14.50m INNER LINING - CASING = Pvc Class 18 14.50m-20.50m INNER LINING - SCREEN = Pvc Class 18			1996-02-12	948	North East
144514	Groundwater Investigation	0.00m-2.00m CLAYEY SAND 2.00m-5.00m SILTY SAND FINE TO COARSE SAND 5.00m-21.00m SAND WITH SILT MEDIUM TO COARSE 21.00m-23.00m SILTY SAND FINE TO MEDIUM SAND, DARK GREY SILT 23.00m-26.00m SANDY SILT DARK GREY 26.00m-38.00m SILTY SAND FINE TO COARSE SAND	0.00m-32.00m INNER LINING - CASING = Pvc Class 18 32.00m-38.00m INNER LINING - SCREEN = Pvc Class 18			1996-02-07	956	North East
81797	Groundwater Investigation	0.00m-38.00m BROWN & GREY SAND 38.00m-40.00m GREY SILTSTONE	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-40.00m INNER LINING - SCREEN = Pvc	Date/time: 1996-10-04 0000 Quality: 47 WLMP: 6.15m DBNS: RWL:		1990-09-19	965	North East
81661	Domestic					1970-12-31	985	North
81783	Not Known	0.00m-6.40m NO RETURNS 6.40m-9.50m SILT SANDY 9.50m-14.00m SAND FINE/MEDIUM 14.00m-14.90m SAND FINE/COARSE 14.90m-22.40m SAND FINE/COARSE 22.40m-23.60m SAND COARSE MINOR GRAVEL 23.60m-33.90m SAND FINE/COARSE MIN GRAVEL 33.90m-44.50m SAND FINE/MED 44.50m-47.60m SILT CLAY CALCAREOUS BANDS	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-36.00m INNER LINING - SCREEN = Pvc 36.00m-47.60m INNER LINING - CASING = Pvc		3.00m-36.00m Sand	1990-02-09	986	North
81794	Groundwater Investigation	0.00m-33.00m GREY & BROWN SAND 33.00m-34.10m GREY SILTSTONE	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-34.10m INNER LINING - SCREEN = Pvc			1990-08-20	995	North
WRK032549	Irrigation	0.00m-4.00m TOP SOIL AND CLAY 4.00m-43.00m SAND 43.00m-50.00m SANDSTONE AND SLATE 50.00m-55.00m SANDSTONE 55.00m-73.00m GRAVEL AND COAL AND SEA SHELLS 73.00m-85.00m SANDSTONE	0.00m-43.00m INNER LINING - CASING = Steel 0.00m-74.00m INNER LINING - CASING = Steel 60.00m-85.00m INNER LINING - SCREEN = Steel			1997-10-03	1009	South East
81420	Observation	0.00m-1.50m SAND 1.50m-4.60m SANDY CLAY 4.60m-9.10m SAND 9.10m-10.70m DARK CLAY COAL 10.70m-13.70m SANDY CLAY 13.70m-14.30m BAND BLACK COAL 14.30m-18.30m SAND SOME COARSE GRAVEL 18.30m-25.30m GREEN SILTY CLAY 25.30m-27.40m COURSE GRAVEL CLAY 27.40m-29.60m SILTY SAND 29.60m-33.20m HARD BAND STONE 33.20m-44.80m FINE SILTY SANDS 44.80m-45.40m BAND HARD STONE 45.40m-47.20m GREEN DIRTY MARL SAND 47.20m-48.80m SILTY CLAY 48.80m-49.40m BAND OF HARD STONE 49.40m-50.00m GREEN CLAY 50.00m-50.60m STONE 50.60m-56.40m BROWN CLAY 56.40m-58.20m DECOM CLAY COAL 58.20m-60.96m MUDSTONE	0.00m-60.96m INNER LINING - CASING = Pvc	Date/time: 1975-10-22 0000 Quality: 47 WLMP: 6.33m DBNS: 6.30m RWL: 27.34mAHD		1973-01-31	1019	North West
81806	Not Known					1988-01-01	1022	North East
WRK985144							1031	South East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81791	Not Known	0.00m-0.50m SANDY LOAM 0.50m-1.50m FINE WHITE SAND 1.50m-2.00m DARK BROWN SANDY CLAY 2.00m-15.50m LIGHT GREY & YELLOW SANDY CLAY 15.50m-19.00m DIRTY DRIFT SAND 19.00m-36.00m GREEN MARINE SILT 36.00m-37.00m BROWN COAL 37.00m-44.00m GREEN SILT & SHELL 44.00m-45.00m LIGNIOUS CLAY 45.00m-59.00m SOFT MUDSTONE				1990-09-05	1033	South East
133612	Irrigation	0.00m-52.00m SILTY SANDS & CLAYEY MARLS SOME FILLING ENCOUNTERED AT 5-9 M 52.00m-150.00m FRIM GREY MUDSTONES	0.30m-52.00m INNER LINING - CASING = Steel 52.00m-150.00m INNER LINING - SCREEN = Steel 0.00m-52.00m OUTER LINING - GRAVEL = Cement		52.00m-150.00m Mudstone	1997-11-24	1044	West
81750	Domestic	0.00m-0.50m GREY SANDY LOAM 0.50m-3.00m YELLOW CLAY 3.00m-3.15m SANDY LAYER MEDIUM 3.15m-5.00m WHITE GREY CLAY 5.00m-5.07m THIN ROCK LAYER 5.07m-5.45m COARSE SAND WITH SOME FINE CLAY 5.45m-6.00m GREY CLAY	0.00m-5.00m INNER LINING - CASING = Pvc 5.00m-5.45m INNER LINING - SCREEN = Pvc 5.45m-6.00m INNER LINING - SCREEN = Slotted Pvc		5.00m-5.45m Sand 5.45m-6.00m Clay	1984-06-04	1057	South
112414	Groundwater Investigation	0.00m-0.30m SILTY TOP SOIL 0.30m-0.80m TIP FILL 0.80m-3.00m SILTY SAND 3.00m-12.00m YELLOW SILTY CLAY SAND 12.00m-12.50m GREY SANDY CLAY 12.50m-15.40m LIGNIOUS SANDY CLAY 15.40m-21.00m FINE LIGNIOUS SAND OPEN HOLE 21.00m-26.00m FINE LIGNIOUS SAND	-0.10m-19.25m INNER LINING - CASING = Pvc 19.25m-25.00m INNER LINING - SCREEN = Pvc 0.20m-1.50m OUTER LINING - GRAVEL = Cement 18.00m-25.00m OUTER LINING - GRAVEL = Gravel		19.25m-25.00m Sand	1992-01-09	1061	North
81716	Domestic	0.00m-2.00m TOP SOIL 2.00m-6.00m CLAY 6.00m-7.00m LIGHT CLAY AND SAND 7.00m-8.00m LIGHT SAND 8.00m-10.00m COARSE SAND	0.00m-7.00m INNER LINING - CASING = Pvc 7.00m-10.00m INNER LINING - SCREEN = Pvc		7.00m-10.00m Clay	1983-06-12	1063	South
WRK989785							1071	South East
81737	Domestic	0.00m-3.00m TOP SOIL WITH GREY SAND 3.00m-5.00m GREY SANDY CLAY 5.00m-11.00m GREY CLAY WITH SAND 11.00m-17.00m BROWN SANDY CLAY 17.00m-59.00m BLACK CLAY 59.00m-60.00m WEATHERED MUDSTONE 60.00m-86.00m MUDSTONE	0.00m-59.20m INNER LINING - CASING = Mild Steel 59.20m-86.00m INNER LINING - SCREEN = Mild Steel		59.20m-86.00m Mudstone	1983-12-02	1082	South
WRK070261	Observation					2012-07-05	1083	South West
133613	Irrigation	0.00m-50.00m SILTY SANDS & CLAYEY MARLS 50.00m-150.00m SOFT GREY MUDSTONE	-0.30m-50.00m INNER LINING - CASING = Steel 50.00m-150.00m INNER LINING - SCREEN = Steel 0.00m-50.00m OUTER LINING - GRAVEL = Cement		50.00m-150.00m Mudstone	1997-11-22	1084	West
80581	Stock	0.00m-8.00m CLAYEY SAND 8.00m-10.00m FINE WHITE SAND 10.00m-17.00m BLACK SAND 17.00m-29.00m FINE BLACK SILTY SAND 29.00m-55.00m BLACK SAND LAYERS SANDSTONE 55.00m-58.00m BROWN CLAY AND INFERIOR COAL 58.00m-80.00m WEATHERED GRANITE	0.00m-68.00m INNER LINING - CASING = Steel 68.00m-80.00m INNER LINING - SCREEN = Steel		68.00m-80.00m Granite	1984-02-17	1085	North West
WRK070260	Observation					2012-07-04	1086	South West
WRK070259	Observation					2012-07-03	1088	South West
WRK070258	Observation					2012-07-02	1089	South West
81755	Domestic	0.00m-0.30m TOP SOIL 0.30m-7.62m CLAY 7.62m-12.80m SAND AND CLAY	0.00m-11.58m INNER LINING - CASING = Pvc 11.58m-12.80m INNER LINING - SCREEN = Pvc		11.58m-12.80m Sand	1983-06-01	1146	South East
WRK058438	Irrigation	0.00m-42.00m SAND 42.00m-55.00m MUD STONE 55.00m-68.00m BASALT 68.00m-87.00m SAND 87.00m-95.00m CLAY 95.00m-108.00m SANDSTONE	0.00m-42.50m INNER LINING - CASING = Steel 45.50m-84.50m INNER LINING - SLOT = Steel 0.00m-42.50m OUTER LINING - GRAVEL = Cement		0.00m-42.50m Mudstone 45.50m-84.50m Basalt	2009-09-21	1146	West
WRK080506	Observation	0.00m-1.50m CLAY 1.50m-7.30m CLAY/SAND 7.30m-13.10m SAND	0.00m-0.30m OUTER LINING - GRAVEL = Cement 0.30m-8.50m OUTER LINING - GRAVEL = Bentonite 8.50m-13.10m OUTER LINING - GRAVEL = Gravel		10.10m-13.10m Sand	2014-07-03	1156	North East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81717	Domestic, Stock	0.00m-1.00m SAND BROWN 1.00m-1.80m SAND GREY 1.80m-3.00m CEMENTED FERRUGINOUS PIECES 3.00m-7.00m CLAYEY SAND 7.00m-8.00m GRAVEL 8.00m-10.00m SANDY CLAY 10.00m-11.00m COFFEE ROCK 11.00m-15.00m SILT GRAVEL AND BLACK SAND 15.00m-15.50m CLAYEY SAND 15.50m-16.20m GRAVEL 16.20m-0.00m ROCK	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-16.20m INNER LINING - SCREEN = Pvc 0.00m-2.00m OUTER LINING - GRAVEL = Cement		12.00m-16.20m Silt	1981-08-13	1179	South East
81732	Domestic, Stock	0.00m-3.00m SANDY LOAM 3.00m-10.60m MOTTLED CLAY FIRM SANDY 10.60m-39.30m SAND, SILTY FIRM (FINE) 39.30m-42.60m SANDSTONE PIECES AND FINE SAND	0.00m-39.30m INNER LINING - CASING = Steel 39.30m-42.60m INNER LINING - SCREEN = Steel		39.30m-42.60m Sandstone	1982-11-12	1187	East
WRK984897							1198	West
81738	Domestic	0.00m-1.50m GREY LOAM AND SAND 1.50m-3.00m GREY FIRM SAND 3.00m-4.52m GREY FINE SAND AND CLAY 4.52m-6.10m GREY SAND MEDIUM COARSE 6.10m-7.62m GREY COARSE SAND 7.62m-9.10m YELLOW CLAY SOME GRIT 9.10m-10.62m FINE SAND AND CLAY 10.62m-11.30m MEDIUM FINE SAND 11.30m-12.70m GREY MEDIUM COARSE SAND 12.70m-13.70m GREY MEDIUM COARSE SAND SOME CLAY 13.70m-15.20m COARSE GREY SAND WITH CLAY 15.20m-16.70m YELLOW CLAY FINE SAND 16.70m-19.81m COARSE GREY SAND	0.00m-7.62m INNER LINING - CASING = Pvc 7.62m-18.50m INNER LINING - SCREEN = Pvc 18.50m-19.81m INNER LINING - SCREEN = Slotted Pvc		7.62m-18.50m Clay 18.50m-19.81m Sand	1983-09-14	1212	South East
WRK984494							1223	East
81697	Domestic, Stock	0.00m-1.52m TOP AND SUB SOILS 1.52m-3.05m YELLOW SANDY CLAY 3.05m-3.66m GREY/WHITE CLAY 3.66m-4.88m ORANGE SANDY CLAY 4.88m-7.31m PURE WHITE FINE SAND	0.00m-7.31m INNER LINING - CASING = Not Known 1.52m-7.31m INNER LINING - SCREEN = Not Known			1973-01-06	1225	North East
115902	Groundwater Investigation	0.00m-15.00m BROWN & GREY SILTY SANDS	0.00m-13.00m INNER LINING - CASING = Pvc 13.00m-15.00m INNER LINING - SCREEN = Pvc 10.00m-12.70m OUTER LINING - GRAVEL = Gravel 12.70m-12.90m OUTER LINING - GRAVEL = Bentonite 12.90m-15.00m OUTER LINING - GRAVEL = Gravel			1993-06-07	1232	North
115903	Groundwater Investigation	0.00m-15.00m BROWN & GREY SILTY SANDS	0.00m-13.00m INNER LINING - CASING = Pvc 13.00m-15.00m INNER LINING - SCREEN = Pvc 10.00m-12.70m OUTER LINING - GRAVEL = Gravel 12.70m-12.90m OUTER LINING - GRAVEL = Bentonite 12.90m-15.00m OUTER LINING - GRAVEL = Gravel			1993-06-07	1241	North
WRK981862							1255	South East
WRK039214	Irrigation	0.00m-6.50m GREY STICKY SILTY SAND 6.50m-26.00m BLACK MED GRAINED SAND 26.00m-28.90m BLACK-GREY COARSE SAND AND GRAVEL 28.90m-35.60m YELLOW/BROWN CLAYEY SAND 35.60m-40.50m GREY/BROWN MED GRAINED SAND 40.50m-52.50m VERY LOOSE MED GRAINED GREY/WHITE SAND 52.50m-54.38m SOFT TO HARD GREY/BROWN WEATHERED ROCK	0.00m-54.38m INNER LINING - CASESCRN = Not Known			1990-07-29	1260	North West
WRK039206	Irrigation					1970-12-31	1269	South East
81753	Domestic	0.00m-1.50m GREY BLACK LOAM 1.50m-3.00m BROWN SAND 3.00m-5.00m SAND GREY SILT, SOME GRAVEL 5.00m-7.00m SAND AND FINE GRAVEL 7.00m-9.00m SANDY CLAY 9.00m-13.70m COARSE GRAVEL AND SAND	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-12.40m INNER LINING - SCREEN = Pvc 12.40m-13.70m INNER LINING - SCREEN = Slotted Pvc		12.00m-12.40m Gravel 12.40m-13.70m Gravel	1985-04-01	1288	West



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
134540	Groundwater Investigation	0.00m-0.80m ORGANIC SILTY SAND 0.80m-1.80m SANDY CLAY 1.80m-3.20m CLAYEY SAND 3.20m-5.80m SANDY CLAY 5.80m-7.00m CLAYEY SAND 7.00m-8.50m SILTY CLAYEY SAND	0.00m-7.00m INNER LINING - CASING = Pvc Class 18 7.00m-8.50m INNER LINING - SCREEN = Pvc Class 18			1996-07-17	1300	North West
134543	Groundwater Investigation	0.00m-0.80m ORGANIC SILTY SAND 0.80m-5.50m SANDY CLAY 5.50m-5.60m CLAYEY SAND 5.60m-8.50m SILTY CLAY	0.00m-7.00m INNER LINING - CASING = Pvc Class 18 7.00m-8.50m INNER LINING - SCREEN = Pvc Class 18			1996-07-18	1300	North West
134541	Groundwater Investigation	0.00m-0.80m ORGANIC SILTY SAND 0.80m-3.00m SANDY CLAY 3.00m-4.00m CLAYEY SAND 4.00m-4.50m SANDY CLAY	0.00m-4.00m INNER LINING - CASING = Pvc Class 18 4.00m-4.50m INNER LINING - SCREEN = Pvc Class 18			1996-07-17	1300	North West
134542	Groundwater Investigation	0.00m-1.80m ORGANIC SILTY SAND 1.80m-2.80m SANDY CLAY 2.80m-4.20m CLAYEY SILTY SAND 4.20m-6.20m SANDY CLAY 6.20m-9.50m CLAYEY SAND	0.00m-8.00m INNER LINING - CASING = Pvc Class 18 8.00m-9.50m INNER LINING - SCREEN = Pvc Class 18			1996-07-17	1300	North West
134539	Groundwater Investigation	0.00m-0.80m SILTY SAND 0.80m-3.50m SANDY GRAVELLY CLAY 3.50m-4.50m SANDY CLAY 4.50m-9.50m SAND	0.00m-7.50m INNER LINING - CASING = Pvc Class 18 7.50m-9.50m INNER LINING - SCREEN = Pvc Class 18			1996-07-17	1300	North West
134544	Groundwater Investigation	0.00m-0.80m FILL 0.80m-2.50m SANDY GRAVELLY CLAY 2.50m-3.00m SILTY SAND 3.00m-9.50m CLAYEY SILTY SAND	0.00m-8.00m INNER LINING - CASING = Pvc Class 18 8.00m-9.50m INNER LINING - SCREEN = Pvc Class 18			1996-07-18	1300	North West
134538	Groundwater Investigation	0.00m-1.00m SILTY SAND 1.00m-2.00m SANDY CLAY 2.00m-4.00m CLAYEY SAND 4.00m-5.00m SANDY CLAY 5.00m-8.50m CLAYEY SAND	0.00m-7.00m INNER LINING - CASING = Pvc Class 18 7.00m-8.50m INNER LINING - SCREEN = Pvc Class 18			1996-07-17	1300	North West
WRK032943	Irrigation	0.00m-60.00m SAND / CLAY 60.00m-95.00m GRANITE	0.00m-60.00m INNER LINING - CASING = Steel 60.00m-75.00m INNER LINING - CASING = Pvc 75.00m-95.00m INNER LINING - SCREEN = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement			2000-05-24	1305	North
112415	Groundwater Investigation	0.00m-0.20m FINE DRY SAND 0.20m-2.00m DARK SAND CLAY SHELLS 2.00m-4.10m LIGNIOUS SILTY SAND 4.10m-11.80m MEDIUM-COARSE SAND 11.80m-12.50m FINER GREEN SAND 12.50m-18.50m FINE TO MEDIUM GREEN SILTY SAND 18.50m-20.00m FIRM GREY CLAY (MUDSTONE)	-0.10m-13.00m INNER LINING - CASING = Pvc 13.00m-19.00m INNER LINING - SCREEN = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 18.00m-20.00m OUTER LINING - GRAVEL = Gravel		13.00m-19.00m Sand	1992-01-29	1311	North
81739	Domestic	0.00m-1.50m GREY SANDY LOAM 1.50m-4.52m YELLOW CLAY 4.52m-9.10m YELLOW ORANGE CLAY 9.10m-10.60m MEDIUM SAND AND MEDIUM COARSE GRAVEL 10.60m-12.10m YELLOW CLAY 12.10m-15.20m YELLOW CLAY, COARSE GRAVEL 15.20m-18.29m GREEN CLAY, SOME GRAVEL 18.29m-19.51m GREEN CLAY - GRAVEL	0.00m-6.40m INNER LINING - CASING = Pvc 6.40m-18.00m INNER LINING - SCREEN = Pvc 18.00m-18.50m INNER LINING - CASING = Pvc 18.50m-19.51m INNER LINING - SCREEN = Pvc		6.40m-18.00m Clay 18.50m-19.51m Clay	1983-12-13	1356	South East
111010	Groundwater Investigation	0.00m-6.00m SAND (FINE TO MEDIUM) 6.00m-10.00m GREY SANDY CLAY 10.00m-18.00m SAND (MEDIUM TO FINE) WITH CEMENTED BANDS	-1.00m-10.00m INNER LINING - CASING = Pvc Class 12 10.00m-18.00m INNER LINING - SCREEN = Pvc Class 12 0.00m-1.00m OUTER LINING - GRAVEL = Cement 3.50m-4.50m OUTER LINING - GRAVEL = Bentonite 4.50m-18.00m OUTER LINING - GRAVEL = Gravel		10.00m-18.00m Sand	1991-12-13	1383	North West
81793	Groundwater Investigation	0.00m-22.50m BROWN & GREY SAND 22.50m-28.00m COARSE GREY SAND 28.00m-35.10m FINE BROWN SAND 35.10m-37.20m GREY SILTSTONE	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-37.20m INNER LINING - SCREEN = Pvc 3.00m-0.00m OUTER LINING - GRAVEL = Seal	Date/time: 1996-10-03 0000 Quality: 47 WLMP: 6.55m DBNS: RWL:		1990-08-13	1399	North
81763	Domestic	0.00m-0.25m TOP SOIL 0.25m-0.75m ORANGE SAND 0.75m-6.00m ORANGE CLAY 6.00m-7.00m GREY CLAY 7.00m-8.00m ORANGE SANDY CLAY 8.00m-9.15m IRON STONE	0.00m-8.95m INNER LINING - CASING = Galvanised Iron 8.95m-9.15m INNER LINING - SCREEN = Galvanised Iron		8.95m-9.15m Ironstone	1982-11-12	1403	South East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
127481	Groundwater Investigation, Observation, State Observation Network	0.00m-2.00m DARK GREY SAND 2.00m-7.00m YELLOW GREY CLAYEY SAND 7.00m-10.00m FINE YELLOW SAND 10.00m-15.00m FINE BROWN SAND	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 11.00m-12.00m OUTER LINING - GRAVEL = Bentonite 12.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1145 Quality: 43 WLMP: 3.01m DBNS: 3.06m RWL: 22.18mAHd		1996-04-17	1405	West
112413	Groundwater Investigation	0.00m-0.30m RUBBLE FILL 0.30m-2.00m SILTY SAND 2.00m-6.00m SILTY CLAY 6.00m-7.30m FIRM GREY CLAY 7.30m-15.50m FINE TO MEDIUM DRY SAND 15.50m-17.00m HARD LIGNIOUS SAND 17.00m-20.00m LIGNIOUS SAND HARD BARS 20.00m-22.00m MEDIUM SAND 22.00m-27.00m GREEN SAND MEDIUM	-0.20m-22.50m INNER LINING - CASING = Steel -0.15m-25.00m INNER LINING - CASING = Pvc 19.00m-25.00m INNER LINING - SCREEN = Pvc 18.00m-25.00m OUTER LINING - GRAVEL = Gravel		19.00m-25.00m Sand	1992-01-14	1411	North
WRK056199	Observation					2010-09-14	1413	East
127484	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m DARK GREY SANDY SOIL 1.00m-2.00m ORANGY BROWN SANDY CLAY 2.00m-3.00m BROWNY ORANGE SANDY CLAY 3.00m-5.00m ORANGE GRAVELY CLAY 5.00m-13.00m ORANGE & GREY GRAVELY CLAY 13.00m-15.00m GREY SILTY SAND	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 10.00m-11.00m OUTER LINING - GRAVEL = Bentonite 11.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1042 Quality: 43 WLMP: 4.18m DBNS: 4.20m RWL: 6.95mAHd		1996-04-12	1433	South
WRK992204	Groundwater Investigation	0.00m-0.50m fill 0.50m-5.00m brighton group sands	0.00m-2.00m INNER LINING - CASING = Pvc 2.00m-5.00m INNER LINING - SCREEN = Pvc 0.00m-0.20m OUTER LINING - GRAVEL = Cement 0.20m-1.50m OUTER LINING - GRAVEL = Bentonite 1.50m-5.00m OUTER LINING - GRAVEL = Gravel			2009-08-10	1442	South
127486	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m FINE GREY SAND 1.00m-7.00m LIGHT BROWN CLAYEY SAND 7.00m-15.00m BROWN CLAYEY SAND 15.00m-30.00m SANDY MARL	0.00m-27.00m INNER LINING - CASING = Pvc 27.00m-29.00m INNER LINING - SCREEN = Pvc 29.00m-30.00m INNER LINING - CASING = Pvc 26.00m-27.00m OUTER LINING - GRAVEL = Bentonite 27.00m-30.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1043 Quality: 43 WLMP: 4.17m DBNS: 4.24m RWL: 6.88mAHd		1996-04-18	1445	South
81722	Domestic	0.00m-1.20m TOP SOIL 1.20m-8.00m CLAY 8.00m-9.00m RIVER SAND 9.00m-0.00m ROCK (SANDSTONE)	0.00m-6.00m INNER LINING - CASING = Pvc 6.00m-9.00m INNER LINING - SCREEN = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 0.30m-0.00m OUTER LINING - GRAVEL = Seal		6.00m-9.00m Sand	1983-02-28	1457	South
WRK991461							1464	South East
81435	Groundwater Investigation, Observation, State Observation Network		0.00m-16.50m INNER LINING - CASING = Pvc	Date/time: 1985-09-24 0000 Quality: 43 WLMP: 8.88m DBNS: 8.51m RWL: 24.59mAHd		1976-04-29	1473	East
109632	Observation, State Observation Network	0.00m-0.60m TOP SOIL 0.60m-11.90m SANDY CLAY GREY 11.90m-16.20m DARK BROWN SILTY COAL 16.20m-18.90m BROWN CLAY 18.90m-22.90m SILTY SAND PY RITES 22.90m-27.40m GREEN SILTY MARL 27.40m-32.00m GRREN SILTY MARL 32.00m-32.60m SILTY MARL HARD BAR CEMENTED GRAVEL 32.60m-36.60m GREY CLAY STONE CLAY (BEDROCK) 36.60m-39.62m GREY CLAY (BEDROCK)	0.00m-9.14m INNER LINING - CASING = Pvc 9.14m-15.24m INNER LINING - SCREEN = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 9.00m-15.30m OUTER LINING - GRAVEL = Gravel	Date/time: 1974-05-30 0000 Quality: 43 WLMP: 5.81m DBNS: 5.76m RWL: 28.69mAHd	9.14m-15.24m Coal	1973-07-30	1501	East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
109633	Observation, State Observation Network		0.00m-18.29m INNER LINING - CASING = Pvc 18.29m-30.48m INNER LINING - SCREEN = Pvc 30.48m-39.62m INNER LINING - CASING = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 15.24m-18.29m OUTER LINING - GRAVEL = Bentonite 18.29m-39.62m OUTER LINING - GRAVEL = Gravel	Date/time: 1974-05-30 0000 Quality: 43 WLMP: 9.05m DBNS: 9.00m RWL: 25.45mAHD	18.29m-30.48m Marl	1973-07-30	1501	East
WRK042421	Irrigation	0.00m-12.00m SAND CLAY 12.00m-18.00m SANDY SILT 18.00m-35.00m MUDSTONE 35.00m-57.00m SLATESTONE 57.00m-91.00m BASALT QUARTZ 91.00m-97.70m BASALT	-0.20m-42.00m INNER LINING - CASING = Steel -0.20m-42.50m INNER LINING - CASING = Steel 42.00m-85.00m INNER LINING - SCREEN = Steel 85.00m-97.70m INNER LINING - SCREEN = Slotted Steel			1993-01-07	1507	West
WRK056198	Observation					2010-04-14	1513	East
WRK056197	Observation	0.00m-5.00m sandy clay	0.00m-1.50m INNER LINING - CASING = Pvc 1.50m-5.00m INNER LINING - SCREEN = Pvc 0.00m-0.50m OUTER LINING - GRAVEL = Cement 0.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-5.00m OUTER LINING - GRAVEL = Gravel		0.00m-1.50m Clay 1.50m-5.00m Clay	2010-04-13	1513	East
129983	Groundwater Investigation, Observation	0.00m-7.00m CLAY 7.00m-11.00m SAND 11.00m-15.00m MUDSTONE 15.00m-33.00m SAND 33.00m-45.00m MUDSTONE 45.00m-54.00m GREEN MUDSTONE 54.00m-58.00m COAL 58.00m-87.00m MUDSTONE 87.00m-90.00m FRACTURED MUDSTONE & BASALT 90.00m-150.00m WEATHERED BASALT	-0.30m-4.20m INNER LINING - CASING = Not Known -0.30m-91.00m INNER LINING - CASING = Not Known 61.00m-91.00m INNER LINING - SCREEN = Not Known			1997-02-07	1518	South West
124236	Groundwater Investigation		0.00m-13.80m INNER LINING - CASING = Pvc 13.80m-17.80m INNER LINING - SCREEN = Pvc 0.00m-9.80m OUTER LINING - GRAVEL = Cement 9.80m-10.50m OUTER LINING - GRAVEL = Bentonite 10.50m-18.00m OUTER LINING - GRAVEL = Gravel			1993-12-07	1524	East
WRK068620	Observation	0.00m-1.00m FILL 1.00m-5.00m SAND	0.00m-0.50m INNER LINING - CASING = Pvc 0.50m-5.00m INNER LINING - SCREEN = Pvc 0.00m-0.50m OUTER LINING - GRAVEL = Bentonite 0.50m-5.00m OUTER LINING - GRAVEL = Gravel		0.50m-5.00m Sand	2012-03-23	1532	East
81816	Groundwater Investigation	0.00m-1.00m SAND FINE WHITE 1.00m-2.74m SILTY SAND BROWN 2.74m-10.70m FINE SANDY CLAY BROWN/RED 10.70m-12.00m COARSE CLAYEY SAND BROWN 12.00m-17.45m MEDIUM GRAIN SANDY GREY 17.45m-20.00m SAND DARK BROWN/BLACK FINE TO MEDIUM	-0.30m-10.00m INNER LINING - CASING = Pvc 10.00m-20.00m INNER LINING - SCREEN = Pvc 10.00m-20.00m OUTER LINING - GRAVEL = Gravel			1991-09-03	1552	South East
WRK992181	Groundwater Investigation	0.00m-3.00m fill clay 3.00m-9.00m silty clay	0.00m-6.00m INNER LINING - CASING = Pvc 6.00m-9.00m INNER LINING - SCREEN = Pvc 0.00m-4.50m OUTER LINING - GRAVEL = Cement 4.50m-5.50m OUTER LINING - GRAVEL = Bentonite 5.50m-9.00m OUTER LINING - GRAVEL = Gravel			2009-08-05	1567	North West
WRK991460	Groundwater Investigation	0.00m-5.00m clay 5.00m-7.00m coarse sands	0.00m-4.00m INNER LINING - CASING = Pvc 4.00m-7.00m INNER LINING - SCREEN = Pvc 2.00m-3.00m OUTER LINING - GRAVEL = Cement 3.00m-7.00m OUTER LINING - GRAVEL = Seal			2009-06-23	1576	East
134547	Groundwater Investigation	0.00m-0.30m SANDY CLAY 0.30m-0.80m SILTY SAND 0.80m-2.60m SAND FINE TO MED 2.60m-3.70m SANDY CLAY 3.70m-4.80m CLAYEY SAND 4.80m-5.80m SAND MED TO COARSE 5.80m-5.90m CLAYEY SAND 5.90m-11.50m SAND MED TO COARSE	0.00m-10.50m INNER LINING - CASING = Pvc 10.50m-11.50m INNER LINING - SCREEN = Pvc			1996-08-20	1614	North West



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
125269	Groundwater Investigation, State Observation Network	0.00m-2.00m DRY SAND 2.00m-8.00m SANDY CLAY 8.00m-11.00m GRAVEL SILT & CLAY 11.00m-17.00m YELLOW SILTY CLAY 17.00m-28.00m GREY SILTY CLAY	0.00m-8.50m INNER LINING - CASING = Pvc 8.50m-10.50m INNER LINING - SCREEN = Pvc 10.50m-13.50m INNER LINING - CASING = Pvc 8.50m-13.50m OUTER LINING - GRAVEL = Gravel 13.50m-14.50m OUTER LINING - GRAVEL = Bentonite	Date/time: 2016-02-23 1019 Quality: 43 WLMP: 6.33m DBNS: 6.33m RWL: 20.88mAHd		1995-01-13	1655	South East
81734	Domestic	0.00m-0.15m TOP SOIL 0.15m-3.00m FINE BROWN SAND 3.00m-4.00m TACKY FINE WHITE SAND 4.00m-5.50m GREY CLAY 5.50m-8.00m FINE TACKY SAND 8.00m-9.50m FINE CLEAN SAND 9.50m-11.00m BROWN LIGNIOUS SAND 11.00m-14.60m BROWN MEDIUM SAND	0.00m-11.70m INNER LINING - CASING = Pvc 11.70m-14.60m INNER LINING - SCREEN = Pvc		11.70m-14.60m Sand	1983-10-03	1706	North
81767	Domestic	0.00m-0.30m SURFACE SOIL 0.30m-0.60m GREY SAND 0.60m-4.20m CLAY 4.20m-14.00m SANDY CLAY 14.00m-15.80m SLOPPY CLAYEY SAND 15.80m-17.90m CLAYEY SAND WITH PIECES OF IRONSTONE	0.00m-15.80m INNER LINING - CASING = Pvc 15.80m-17.90m INNER LINING - SCREEN = Pvc 4.50m-17.90m OUTER LINING - GRAVEL = Gravel		15.80m-17.90m Sand	1983-09-01	1710	South East
81778	Not Known	0.00m-0.30m TOPSOIL 0.30m-2.00m LOOSE SAND 2.00m-4.00m CLAYEY SAND 4.00m-5.50m WELL-CEMENTED SAND 5.50m-15.00m QUARTZITE SAND 15.00m-19.00m SILTY MARINE SAND	0.00m-3.50m INNER LINING - CASING = Pvc 3.50m-17.00m INNER LINING - SCREEN = Pvc 17.00m-17.50m INNER LINING - CASING = Pvc 3.00m-17.50m OUTER LINING - GRAVEL = Not Known		3.50m-17.00m Sand	1988-06-01	1719	East
81817	Groundwater Investigation	0.00m-1.00m SAND BROWN GREY 1.00m-4.00m CLAYEY BROWN MEDIUM SAND 4.00m-6.00m CLAYEY MEDIUM GREY SAND 6.00m-6.75m COARSE GREY SAND 6.75m-10.50m FINE GREY SAND 10.50m-19.67m DARK BROWN & GREY FINE & COARSE SAND SOME BLACK	-0.30m-10.00m INNER LINING - CASING = Pvc 10.00m-19.67m INNER LINING - SCREEN = Pvc 10.00m-19.67m OUTER LINING - GRAVEL = Gravel			1991-09-04	1729	East
81761	Domestic, Stock	0.00m-1.00m FILL BRICK RUBBLE 1.00m-3.00m SAND YELLOW 3.00m-6.00m SANDY CLAY 6.00m-9.00m CLAY 9.00m-13.50m SAND 13.50m-0.00m BEDROCK	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-13.50m INNER LINING - SCREEN = Pvc		12.00m-13.50m Sand	1983-12-31	1758	South East
WRK070392	Observation	0.00m-0.60m FILL 0.60m-2.20m CLAY 2.20m-10.00m CLAY	0.00m-6.00m INNER LINING - CASING = Pvc 6.00m-10.00m INNER LINING - SCREEN = Pvc 0.00m-4.00m OUTER LINING - GRAVEL = Cement 4.00m-5.00m OUTER LINING - GRAVEL = Bentonite 5.00m-10.00m OUTER LINING - GRAVEL = Gravel		6.00m-10.00m Clay	2012-08-20	1786	North East
WRK042424	Irrigation					1996-05-31	1796	West
81814	Domestic, Miscellaneous, Stock	0.00m-1.10m TOP SOIL 1.10m-18.00m CLAY 18.00m-42.00m DECOMPOSED ROCK (MUDSTONE) 42.00m-48.00m CLAY 48.00m-67.00m COAL/SAND	0.00m-54.70m INNER LINING - CASING = Not Known 54.70m-67.00m INNER LINING - SCREEN = Not Known		54.70m-67.00m Sand	1990-02-01	1797	West
81795	Groundwater Investigation	0.00m-3.00m BROWN SANDY CLAY 3.00m-18.00m BROWN & GREY SILTY SAND 18.00m-19.00m GREY SILTSTONE	3.00m-19.00m INNER LINING - SCREEN = Slotted Pvc 10.00m-3.00m INNER LINING - CASING = Pvc	Date/time: 1996-10-03 0000 Quality: 47 WLMP: 3.83m DBNS: 3.83m RWL:		1991-08-23	1803	North
81433	Groundwater Investigation		0.00m-28.00m INNER LINING - CASING = Pvc 28.00m-30.00m INNER LINING - SCREEN = Pvc 30.00m-32.00m INNER LINING - CASING = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement		28.00m-30.00m Clay	1976-04-09	1813	East
81434	Groundwater Investigation					1976-04-23	1813	East
81808	Not Known					1988-01-01	1815	South

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81796	Groundwater Investigation	0.00m-33.80m BROWN & GREY SAND	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-33.80m INNER LINING - SCREEN = Pvc	Date/time: 1996-10-03 0000 Quality: 47 WLMP: 6.76m DBNS: RWL:		1990-09-03	1828	North East
WRK055928	Domestic & Stock	0.00m-10.00m clay sands 10.00m-20.00m clay orange 20.00m-24.00m clay sands 24.00m-25.00m coarse sand 25.00m-28.00m clay sand	0.00m-20.00m INNER LINING - CASING = Pvc 20.00m-32.00m INNER LINING - SCREEN = Pvc 0.00m-10.00m OUTER LINING - GRAVEL = Cement 10.00m-32.00m OUTER LINING - GRAVEL = Gravel		0.00m-20.00m Clay 20.00m-32.00m Sand	2010-04-21	1876	West
81694	Miscellaneous	0.00m-4.26m FINE GREY-BROWN SAND 4.26m-7.92m FIRM YELLOW BROWN SANDY CLAY 7.92m-13.72m BROWN SILTY FINE-MEDIUM SAND	0.00m-13.72m INNER LINING - CASING = Not Known 8.22m-13.72m INNER LINING - SCREEN = Not Known			1973-04-18	1880	South East
81708	Domestic	0.00m-1.00m BLACK LOAM 1.00m-8.00m CLAY 8.00m-10.00m SANDSTONE	0.00m-10.00m INNER LINING - CASING = Pvc 0.10m-10.00m INNER LINING - SCREEN = Pvc			1975-03-08	1883	North East
134548	Groundwater Investigation	0.00m-1.30m SILTY SAND 1.30m-3.20m SAND MED 3.20m-5.70m SAND FINE TO MED 5.70m-6.90m CLAYEY SAND 6.90m-11.50m SAND COARSE	0.00m-10.50m INNER LINING - CASING = Pvc 10.50m-11.50m INNER LINING - SCREEN = Pvc			1996-08-20	1905	North West
WRK989237							1907	South
81729	Domestic	0.00m-3.05m CLAY 3.05m-12.19m SANDY CLAY BROWN 12.19m-21.34m SAND BROWN 21.34m-36.58m SAND GREY 36.58m-49.38m SAND BLACK	0.00m-36.58m INNER LINING - CASING = Pvc 36.58m-38.10m INNER LINING - SCREEN = Pvc 38.10m-44.50m INNER LINING - CASING = Pvc 42.98m-45.72m INNER LINING - SCREEN = Pvc		36.58m-38.10m Sand 42.98m-45.72m Sand	1982-12-23	1909	South
WRK059379	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK065493	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK059378	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK065494	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK059380	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK059376	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK065492	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK059381	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK059377	Observation		0.00m-0.00m OUTER LINING - GRAVEL = Not Known			2015-05-29	1910	North East
WRK989238							1918	South
140374	Groundwater Investigation	0.00m-1.00m SAND, SOME SILT & GRAVEL, DARK BROWN, LOOSE 1.00m-2.00m SANDY CLAY, FINE TO COARSE SAND, SOFT TO FIRM 2.00m-6.00m SANDY CLAY, LIGHT GREY, SAND FINE-MEDIUM, SOFT TO FIRM	0.00m-1.50m INNER LINING - CASING = Pvc Class 18 1.50m-6.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1925	South West
WRK989236							1929	South
129984	Groundwater Investigation, Observation	0.00m-16.00m CLAY 16.00m-41.00m SAND 41.00m-56.00m MUDSTONE 56.00m-70.00m CLAY & COAL 70.00m-95.00m FRACTURED ROCK 95.00m-130.00m FRACTURED ROCK	-0.30m-48.00m INNER LINING - CASING = Not Known -0.30m-95.00m INNER LINING - CASING = Not Known 77.00m-95.00m INNER LINING - SCREEN = Not Known			1997-03-02	1933	West

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81696	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-1.22m SAND 1.22m-3.96m CLAY 3.96m-4.27m SLOPPY CLAYEY SAND 4.27m-12.80m SAND CLAY 12.80m-16.76m CLAYEY SAND 16.76m-21.34m MARINE STICKY CLAY 21.34m-21.94m BROKEN ROCK PIECES 21.94m-45.72m MARINE SILT AND SHELL 45.72m-49.68m LIGHT MARINE SILT SHELL 49.68m-50.29m LIMESTONE 50.29m-54.86m SHELL SILT FINE SAND 54.86m-55.17m SANDSTONE 55.17m-56.08m COARSE SAND	0.00m-49.99m INNER LINING - CASING = Not Known 49.98m-51.20m INNER LINING - SCREEN = Not Known 49.38m-0.00m OUTER LINING - GRAVEL = Seal			1973-10-22	1937	North West
140378	Groundwater Investigation	0.00m-1.00m SILTY SAND, DARK BROWN, FINE-COARSE GRAINED, MOIST 1.00m-3.00m SAND, SOME CLAY, GREY/ORANGE/BROWN, SAND FINE TO COARSE, MOI 3.00m-5.00m SANDY CLAY, ORANGE/GREY, FINE TO COARSE SAND, STIFF	0.00m-2.00m INNER LINING - CASING = Pvc Class 18 2.00m-5.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1939	South West
WRK989239							1940	South
140376	Groundwater Investigation	0.00m-1.00m SAND , SOME SILT & CLAY, DARK BROWN, FINE TO MEDIUM GRAINED, 1.00m-2.00m SANDY CLAY, GREY/ORANGE, FINE-MEDIUM SAND, SOFT TO FIRM 2.00m-3.00m SAND WITH SOME CLAY, FINE-MEDIUM SAND, MOIST 3.00m-4.00m SANDY CLAY, ORANGE/GREY, FINE-MEDIUM SAND, MOIST 4.00m-5.00m SANDY CLAY, ORANGE/GREY, FINE-COARSE SAND, FIRM TO STIFF	0.00m-3.00m INNER LINING - CASING = Pvc Class 18 3.00m-5.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1943	South West
134549	Groundwater Investigation	0.00m-0.40m SILTY SAND 0.40m-0.60m SILTY CLAYEY SAND 0.60m-2.60m CLAY 2.60m-3.40m SAND 3.40m-4.70m CLAYEY SAND 4.70m-9.00m SAND FINE 9.00m-15.00m SAND MED TO COARSE	0.00m-13.50m INNER LINING - CASING = Pvc 13.50m-15.00m INNER LINING - SCREEN = Pvc			1996-08-21	1946	North West
140377	Groundwater Investigation	0.00m-1.00m SAND, SOME SILT & CLAY, BROWN/ORANGE, FINE TO MEDIUM GRAINED 1.00m-2.00m CLAYEY SAND, MOTTLLED GREY & ORANGE, SAND FINE TO COARSE, MOI 2.00m-3.00m SAND, SOME CLAY, FINE TO MEDIUM GRAINED, MOIST 3.00m-4.00m SANDY CLAY, ORANGE/GREY, FINE TO COARSE SAND, FIRM TO STIFF 4.00m-5.00m SANDY CLAY, ORANGE/GREY, FINE TO COASE SAND, FIR TO STIFF	0.00m-2.00m INNER LINING - CASING = Pvc Class 18 2.00m-5.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1951	South West
WRK043226	Groundwater Investigation	0.00m-2.30m TOP SOIL 2.30m-5.00m PEATY FORMATION 5.00m-9.00m SILTY SAND AND CLAY 9.00m-18.00m SAND 18.00m-33.00m MARL 33.00m-36.00m NEWPORT FORMATION 36.00m-51.00m VERY SOFT SHALE 51.00m-55.00m FIRMER SHALE 55.00m-78.00m HARDER SHALE	0.00m-55.50m INNER LINING - CASING = Pvc 0.00m-55.40m OUTER LINING - GRAVEL = Seal			2003-04-22	1959	East
WRK979611							1980	South
142438	Groundwater Investigation	0.00m-0.20m CLAY & GRAVEL FILL 0.20m-0.90m SANDY CLAY, DARK BROWN, MOIST 0.90m-2.80m SANDY CLAY, LIGHT BROWN, PALE BROWN, MOIST, SOFT, FINE & MED 2.80m-8.00m CLAYEY SAND, PALE BROWN, ORANGE, MED & COARSE SAND, MOIST/WE	0.00m-4.50m INNER LINING - CASING = Pvc Class 18 4.50m-8.00m INNER LINING - SCREEN = Pvc Class 18 0.00m-0.50m OUTER LINING - GRAVEL = Cement 3.80m-4.30m OUTER LINING - GRAVEL = Bentonite 4.30m-8.00m OUTER LINING - GRAVEL = Gravel		4.50m-8.00m Sand	1998-06-15	1987	North East
WRK059375	Observation	0.00m-0.50m FILL 0.50m-5.00m CLAY 5.00m-10.00m SAND	0.00m-5.90m INNER LINING - CASING = Pvc 5.90m-8.90m INNER LINING - SCREEN = Pvc 0.00m-4.90m OUTER LINING - GRAVEL = Bentonite 4.90m-8.90m OUTER LINING - GRAVEL = Seal		5.90m-8.90m Sand	2011-09-21	1992	North East



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81748	Domestic	0.00m-1.22m LOOSE SANDY SOIL 1.22m-1.83m HARD SOIL 1.83m-3.66m WHITE SAND 3.66m-4.27m CLAY 4.27m-5.18m LUMPY SOIL	0.00m-5.18m INNER LINING - CASING = Not Known			1983-09-04	1995	East

Boreholes WMIS Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## Groundwater Boreholes

### OSAR Proposed Road Alignments - Site 26 (Section 1)

### Boreholes (Earth Resources Database)

Boreholes from the Earth Resources dataset, within the report buffer:

Bore Id	Bore Type	Company	Usage	Method	Status	Drill Date	Depth	Elevation	Accuracy (m)	Dist (m)	Direct
81419		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		27/11/1971	42.98	26.70	100	0	Onsite
81421		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		21/02/1973	51.82	21.70	100	184	South
81437		Department of Manufacturing & Industry Development		Hand Auger	Abandoned	20/09/1985	4.00		100	184	South
81438		Department of Manufacturing & Industry Development		Hand Auger	Abandoned	20/09/1985	2.90		100	184	South
81725		Private Individual/Corporation		Percussion (cable)	Abandoned	28/04/1983	43.90		100	236	North East
81726		Private Individual/Corporation		Percussion (cable)	Abandoned	09/05/1983	23.80		100	248	North East
81730		Private Individual/Corporation	Irrigation	Air Percussion/Air Rotary		22/02/1983	60.96		100	630	East
81754		Private Individual/Corporation		Percussion (cable)	Abandoned	10/05/1983	30.00		100	700	South East
81733		Private Individual/Corporation		Percussion (cable)	Abandoned	20/02/1983	39.49		100	849	West
80524		Private Individual/Corporation		Percussion (cable)	Abandoned	29/09/1983	64.50		100	864	North West
81497		Private Individual/Corporation				31/12/1970	16.45	45.72	100	865	North East
81721		Private Individual/Corporation	Stock/Poultry water supply	Percussion (cable)		05/01/1983	33.00		100	931	West
81420		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		31/01/1973	60.96	33.67	100	1021	North West
81716		Private Individual/Corporation	Domestic water supply	Hand Auger		12/06/1983	10.00		100	1041	South
81750		Private Individual/Corporation	Domestic water supply	Hand Auger		04/06/1984	6.00		100	1055	South
80581		Private Individual/Corporation	Stock/Poultry water supply	Air Percussion/Air Rotary		17/02/1984	80.00		100	1087	North West
81755		Private Individual/Corporation	Domestic water supply	Hand Auger		01/06/1983	12.80		100	1143	South East
81717		Private Individual/Corporation	Domestic water supply	Hand Auger		13/08/1981	16.20		100	1177	South East
81732		Private Individual/Corporation	Domestic & Stock water supply	Rotary (diamond/drag bit)		12/11/1982	42.60		100	1185	East

Bore Id	Bore Type	Company	Usage	Method	Status	Drill Date	Depth	Elevation	Accuracy (m)	Dist (m)	Direct
81737		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		02/12/1983	86.00		100	1221	South
81753		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		01/04/1985	13.70		100	1290	West
81739		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		13/12/1983	19.51		100	1353	South East
81763		Private Individual/Corporation	Domestic water supply	Percussion (cable)		12/11/1982	9.15		100	1400	South East
81722		Private Individual/Corporation	Domestic water supply	Hand Auger		28/02/1983	9.00		100	1454	South
81435		Department of Manufacturing & Industry Development	Groundwater Investigation	Percussion (cable)		29/04/1976	18.00	37.10	100	1471	East
81435		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		29/04/1976	18.00	37.10	100	1471	East
109632		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		30/07/1973	45.72	34.45	100	1498	East
81767		Private Individual/Corporation	Domestic water supply	Percussion (cable)		01/09/1983	17.90		100	1706	South East
81734		Private Individual/Corporation	Domestic water supply	Percussion (cable)		03/10/1983	14.60		100	1709	North
81761		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		31/12/1983	13.50		100	1756	South East
81433		Department of Manufacturing & Industry Development	Groundwater Investigation	Percussion (cable)		09/04/1976	33.00		100	1811	East
81433		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		09/04/1976	33.00		100	1811	East
81434		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		23/04/1976	18.00		100	1811	East
81729		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		23/12/1982	49.38		100	1908	South
81748		Private Individual/Corporation	Domestic water supply	Hand Auger		04/09/1983	5.18		100	1994	East

Boreholes Earth Resources Data Source: © The State of Victoria, Department of Economic Development, Jobs, Transport and Resources 2015. Creative Commons Attribution 3.0 Australia

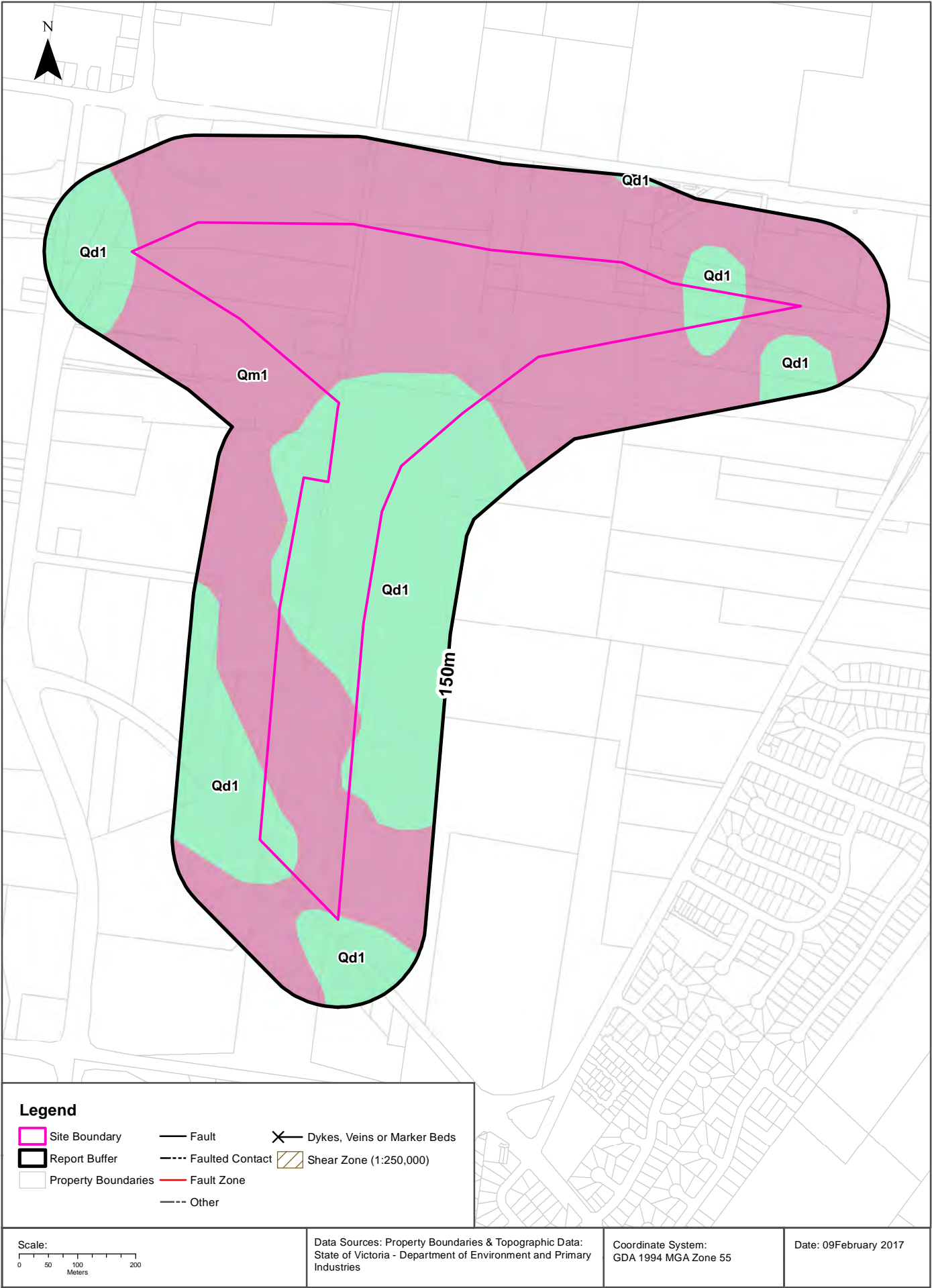
## Boreholes (Federation University)

Boreholes from the Federation University Australia dataset, within the report buffer:

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
N/A	No records within buffer						

Boreholes FedUni Data Source: © Federation University Australia





# Geology

## OSAR Proposed Road Alignments - Site 26 (Section 1)

### Geological Units

What are the Geological Units onsite?

Symbol	Name	Description	Geological Age	Lithology	Dataset
Qd1	inland dune deposits (Qd1): generic	Sand, silt, clay: friable to consolidated; well sorted; includes both lunette deposits and deposits of longitudinal dunes	Quaternary to Quaternary	sand (significant); silt material (significant); clay lithology (significant)	1:50,000
Qm1	swamp and lake deposits (Qm1): generic	Grey to black carbonaceous mud, silt, clay, minor peat: generally unconsolidated; rare dolomite	Pleistocene to Holocene	mud (major proportion); silt material (significant); clay lithology (significant); peat (minor proportion)	1:50,000

What are the Geological Units within the report buffer?

Symbol	Name	Description	Geological Age	Lithology	Dataset
Qd1	inland dune deposits (Qd1): generic	Sand, silt, clay: friable to consolidated; well sorted; includes both lunette deposits and deposits of longitudinal dunes	Quaternary to Quaternary	sand (significant); silt material (significant); clay lithology (significant)	1:50,000
Qm1	swamp and lake deposits (Qm1): generic	Grey to black carbonaceous mud, silt, clay, minor peat: generally unconsolidated; rare dolomite	Pleistocene to Holocene	mud (major proportion); silt material (significant); clay lithology (significant); peat (minor proportion)	1:50,000

Geology Data Custodian: State Government Victoria - Dept of Economic Development, Jobs, Transport & Resources  
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## Geology

### OSAR Proposed Road Alignments - Site 26 (Section 1)

#### Geological Structures

What are the Geological Faults or Faulted Contacts onsite?

Map Id	Type	Name	Contact	Positional Accuracy	Dataset
No features					1:50,000

What are the Dykes, Marker Beds and Veins onsite?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:50,000

What are the Shear Zones onsite (1:250,000 scale)?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:250,000

What are the Geological Faults or Faulted Contacts within the report buffer?

Map Id	Type	Name	Contact	Positional Accuracy	Dataset
No features					1:50,000

What are the Dykes, Marker Beds and Veins within the report buffer?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:50,000

What are the Shear Zones within the report buffer (1:250,000 scale)?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:250,000

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## Coastal Acid Sulfate Soils

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Coastal Acid Sulfate Soils

What are the on-site Coastal Acid Sulfate Soil types?

Coastal Acid Sulfate Soil Types
There are no Acid Sulfate areas onsite

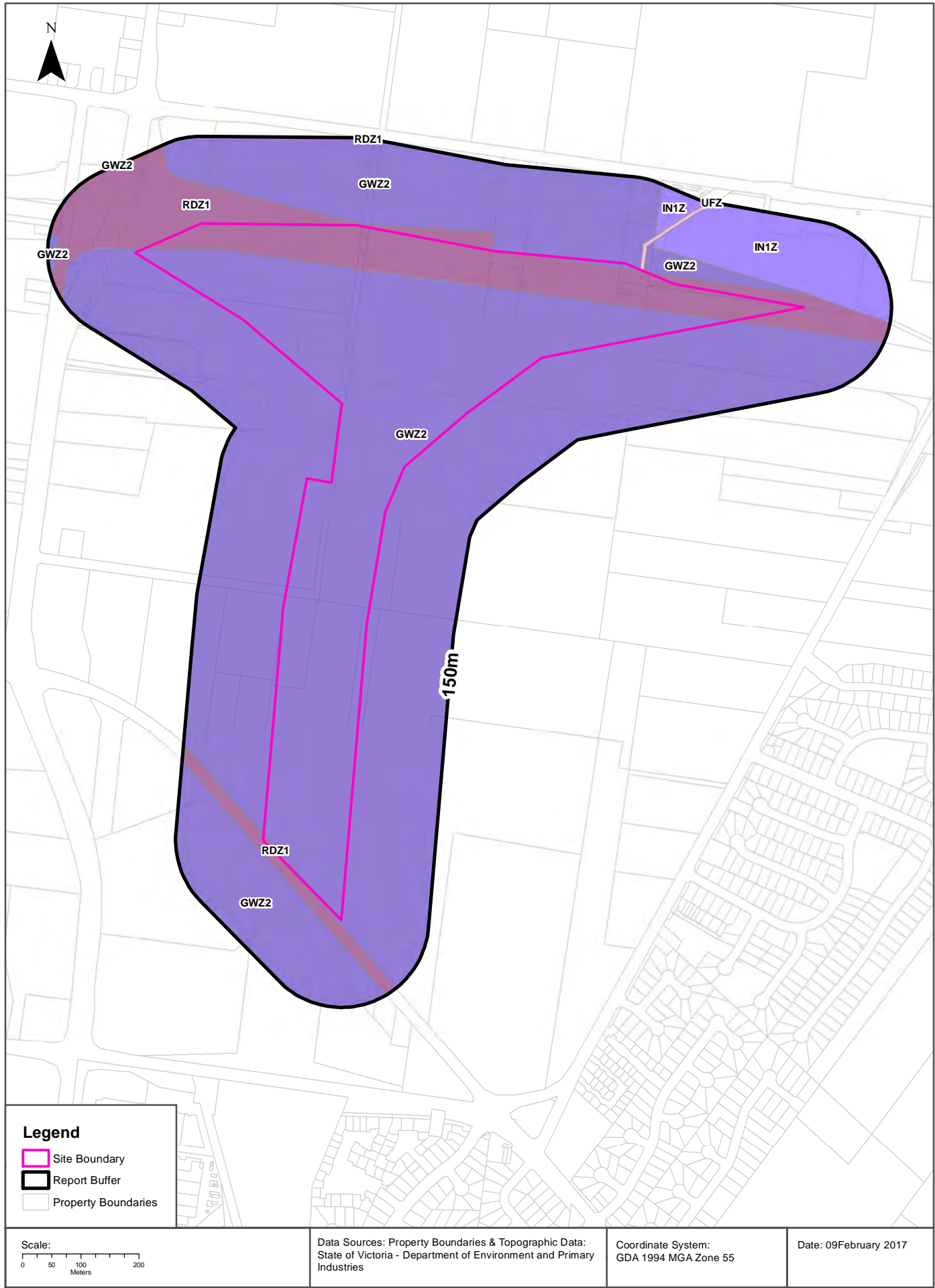
What are the Coastal Acid Sulfate Soil types within the report buffer?

Coastal Acid Sulfate Soil Types	Distance	Direction
There are no Acid Sulfate areas within the report buffer		

Coastal Acid Sulfate Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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# Planning Zones

## OSAR Proposed Road Alignments - Site 26 (Section 1)



## Planning Zones

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Planning Zones

Planning zones within the report buffer:

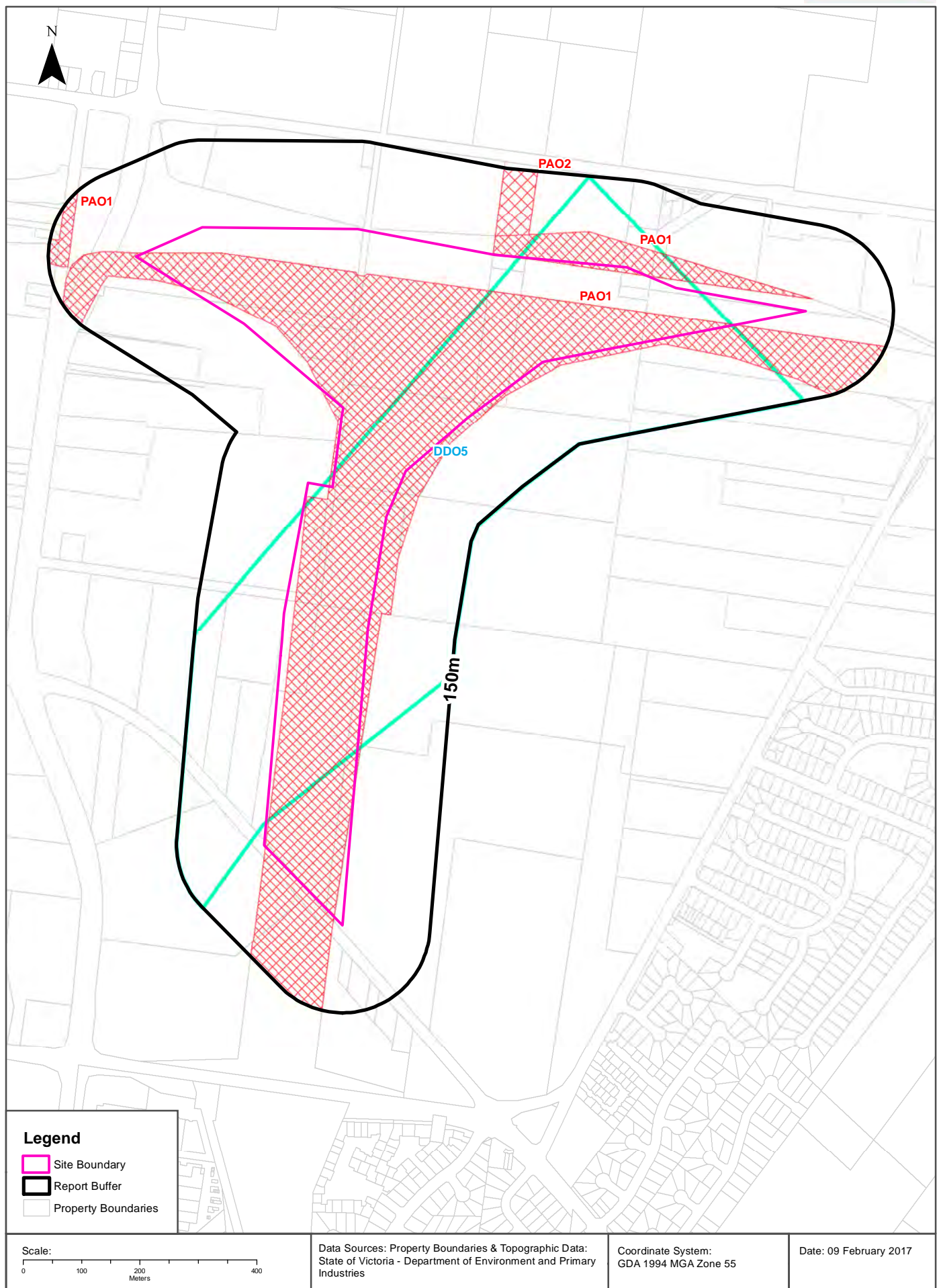
Zone Code	Description	Distance	Direction
GWZ2	GREEN WEDGE ZONE - SCHEDULE 2	0m	Onsite
RDZ1	ROAD ZONE - CATEGORY 1	0m	Onsite
UFZ	URBAN FLOODWAY ZONE	0m	North East
GWZ2	GREEN WEDGE ZONE - SCHEDULE 2	15m	South
IN1Z	INDUSTRIAL 1 ZONE	24m	East
IN1Z	INDUSTRIAL 1 ZONE	61m	North East
GWZ2	GREEN WEDGE ZONE - SCHEDULE 2	134m	West
GWZ2	GREEN WEDGE ZONE - SCHEDULE 2	145m	North West

Planning Zone Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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# Planning Overlays

## OSAR Proposed Road Alignments - Site 26 (Section 1)



## Planning Overlays

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Planning Overlays

Planning overlays within the report buffer:

Zone Code	Description	Distance	Direction
PAO1	PUBLIC ACQUISITION OVERLAY 1	0m	Onsite
DDO5	DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 5	0m	Onsite
PAO2	PUBLIC ACQUISITION OVERLAY 2	31m	North East
PAO1	PUBLIC ACQUISITION OVERLAY 1	114m	North West

Planning Overlay Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## Cultural Heritage Sensitivity

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Cultural Heritage Sensitivity

Areas of Cultural Heritage Sensitivity as specified in Division 3 of Part 2 in the Aboriginal Heritage Regulations 2007, within the report buffer:

Map Id	Culturally Sensitive	Distance	Direction
N/A	No records in buffer		

Cultural Heritage Sensitivity Data Custodian: State Government Victoria - Dept of Planning and Community Development  
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## Natural Hazards

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Bushfire Prone Areas

What are the designated bushfire prone areas within the report buffer?

Map ID	Feature	Plan No	LGA	Gazetted Date	Distance	Direction
N/A	No records within buffer					

Bushfire Prone Area Data Custodian: State Government Victoria - Dept of Transport, Planning & Local Infrastructure  
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## Fire History

What are the fire history records of fires primarily on public land, within the report buffer?

Map Id	Fire Type	Fire Key	Season	Fire No	Fire Name	Treatment	Fire Cover	Start Date	Dist (m)	Direction
N/A	No records within buffer									

Fire History Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## Flood - 1 in 100 year modelled flood extent

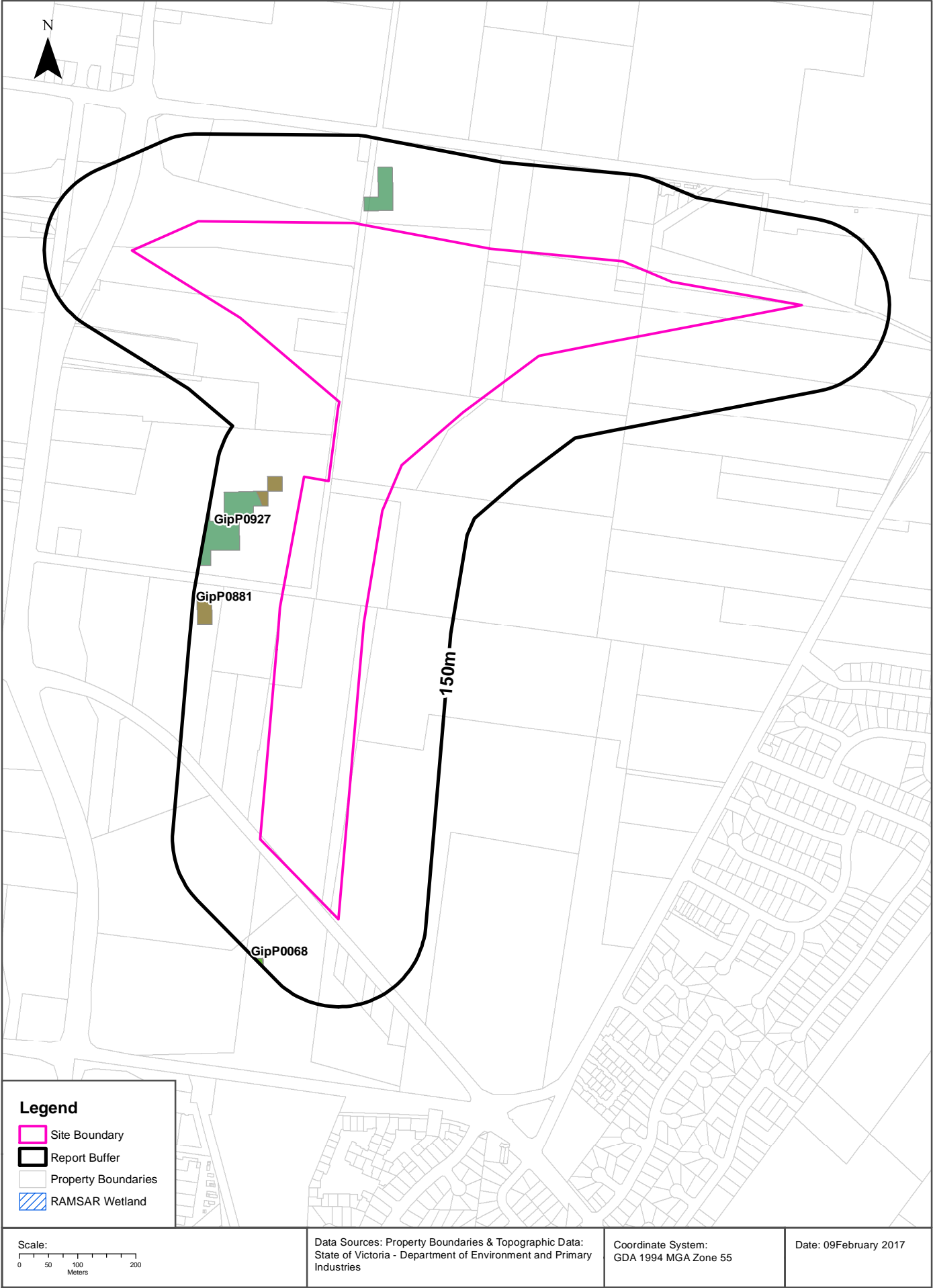
What 1 in 100 year flood extent features exist within the report buffer?

Feature	Source	Method	Scale	Modified Date	Distance	Direction
N/A	No records within buffer					

Flood Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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Ecological Constraints - Native Vegetation 2005 & RAMSAR Wetlands

OSAR Proposed Road Alignments - Site 26 (Section 1)



## Ecological Constraints

### OSAR Proposed Road Alignments - Site 26 (Section 1)

## Native Vegetation (Modelled 2005 Ecological Vegetation Classes)

What native vegetation exists within the report buffer?

Veg Code	EVC Name	EVCCode	Group	Subgroup	Bioregion	Conservation Status	Geographic Occurance	Distance
GipP0927	Plains Grassy Woodland/Swamp Scrub/Plains Grassy Wetland Mosaic	0927	Plains Woodlands or Forests	Freely-draining	Gippsland Plain	Endangered	not applicable	22m
GipP0881	Damp Sands Herb-rich Woodland/Heathy Woodland Mosaic	0881	Herb-rich Woodlands	Damp Sands	Gippsland Plain	Vulnerable	not applicable	32m
GipP0055	Plains Grassy Woodland	0055	Plains Woodlands or Forests	Freely-draining	Gippsland Plain	Endangered	Common	138m
GipP0068	Creekline Grassy Woodland	0068	Riverine Grassy Woodlands or Forests	Creekline and/or swampy	Gippsland Plain	Endangered	Minor	139m

Native Vegetation Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## RAMSAR Wetlands

What RAMSAR wetland areas exist within the report buffer?

Map ID	Site Name	Lake Name	Distance	Direction
N/A	No records within buffer			

RAMSAR Wetland Area Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## **Environmental Risk and Planning Report**

**OSAR Proposed Road Alignments - Site 26 (Section 2)**

**Report Buffer: 150m**

**Report Date: 09 Feb 2017 09:16:33**

**Disclaimer:**

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.

You should obtain independent advice before you make any decision based on the information within the report.

The detailed terms applicable to use of this report are set out at the end of this report.

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## Location Confidences

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

LC Code	Location Confidence
1	Georeferenced to the site location / premise or part of site
2	Georeferenced with the confidence of the general/approximate area
3	Georeferenced to the road or rail
4	Georeferenced to the road intersection
5	Feature is a buffered point
6	Land adjacent to Georeferenced Site
7	Georeferenced to a network of features



## Dataset Listing

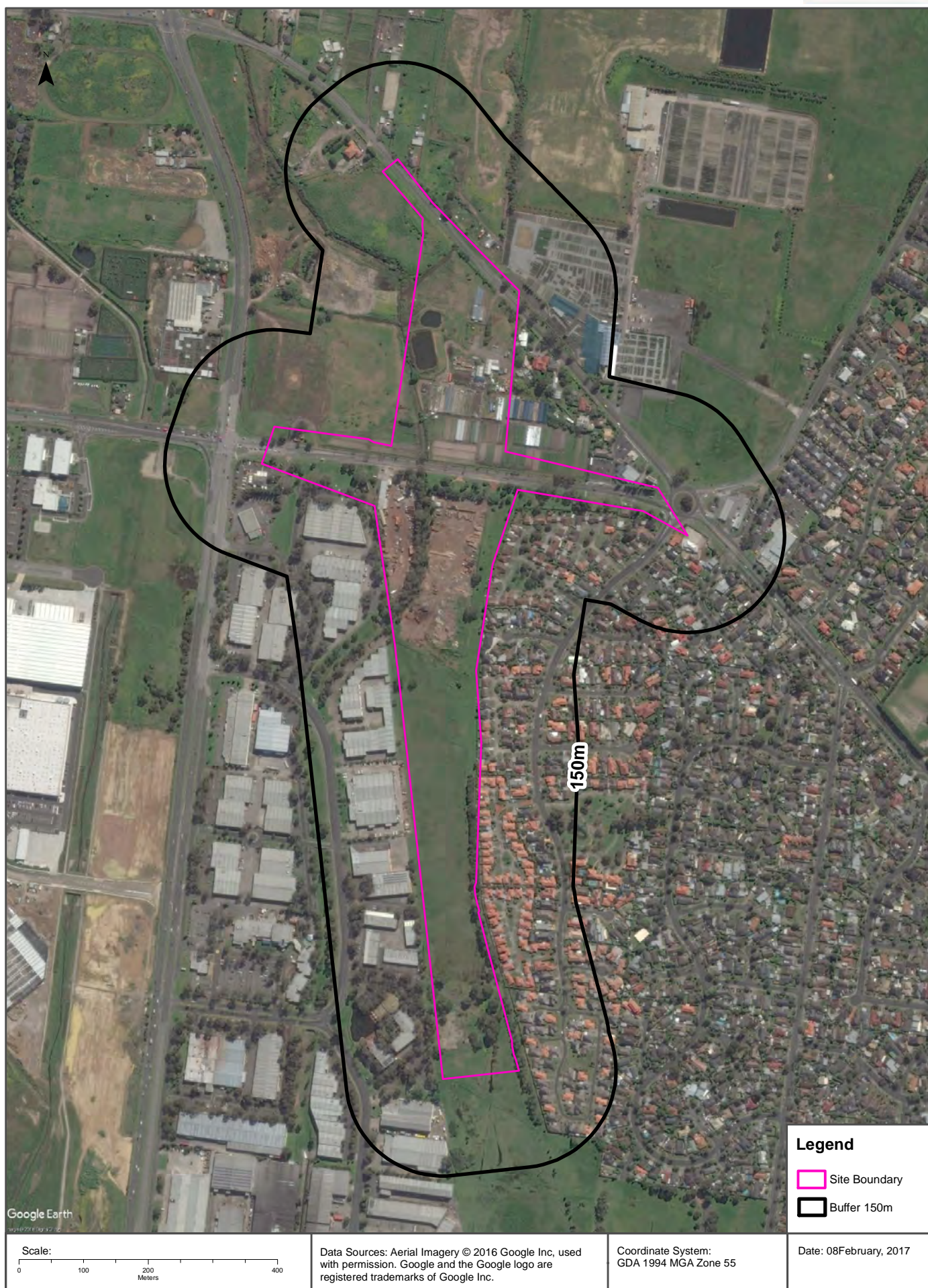
Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	No. Features Onsite	No. Features within 100m	No. Features in Buffer
Topographic and Cadastre data	State Government Victoria - Department of Environment, Land, Water & Planning	06/02/2017	06/02/2017	Quarterly	-	-	-
Current Priority Sites	Environment Protection Authority (Vic)	06/02/2017	31/12/2016	Monthly	1	1	1
Former Priority Sites & other Pollution Notices	Environment Protection Authority (Vic)	06/02/2017	05/01/2017	Monthly	8	8	8
EPA Environmental Audit Reports	Environment Protection Authority (Vic)	06/02/2017	24/11/2016	Monthly	1	3	3
Groundwater Zones with Restricted Uses	Environment Protection Authority (Vic)	06/02/2017	27/01/2017	Monthly	0	0	0
Licensed Activities	Environment Protection Authority (Vic)	06/02/2017	29/01/2017	Monthly	0	0	0
Former Licensed Activities	Environment Protection Authority (Vic)	06/02/2017	29/01/2017	Monthly	1	1	1
Works Approvals	Environment Protection Authority (Vic)	06/02/2017	06/02/2017	Monthly	0	0	0
National Waste Management Site Database	Geoscience Australia	06/02/2017	15/11/2012	Quarterly	1	1	1
Statewide Waste and Resource Recovery Infrastructure Plan Facilities	State Government Victoria - Department of Sustainability	27/11/2014	31/12/2012	None planned	1	1	1
EPA Prescribed Industrial Waste	Environment Protection Authority (Vic)	04/01/2017	04/01/2017	Quarterly	1	1	1
UBD Business to Business Directory 1991	Hardie Grant			Not required	3	34	34
UBD Business to Business Directory 1991 - Garages & Service Stations	Hardie Grant			Not required	3	3	3
UBD Business Directory 1980	Hardie Grant			Not required	2	5	5
UBD Business Directory 1980 Drycleaners, Motor Garages & Service Stations	Hardie Grant			Not required	1	1	1
UBD Business Directory 1960 Drycleaners, Motor Garages & Service Stations	Hardie Grant			Not required	0	0	0
UBD Business Directory 1950	Hardie Grant			Not required	0	0	0
UBD Business Directory 1950 Drycleaners, Motor Garages & Service Stations	Hardie Grant			Not required	0	0	0
Features of Interest	State Government Victoria - Department of Environment, Land, Water & Planning	03/02/2017	27/01/2017	Quarterly	2	5	9
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1	1	1
Groundwater Salinity	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	29/08/2012	Unknown	2	-	-
Depth to Watertable	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	29/08/2012	Unknown	2	-	-
Surface Elevation	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	23/09/2013	Unknown	1	-	-
Basement Elevation	State Government Victoria - Department of Environment, Land, Water & Planning	14/08/2015	23/09/2013	Unknown	1	-	-
Groundwater Boreholes WMIS	State Government Victoria - Department of Environment, Land, Water & Planning	29/04/2016	28/04/2016	Annually	1	17	185
Groundwater Boreholes Earth Resources Database	The State of Victoria, Department of Economic Development, Jobs, Transport and Resources	29/04/2016	17/02/2010	As required	0	1	27
Groundwater Boreholes Fed Uni	Federation University Australia	29/04/2016	07/01/2014	As required	0	0	0
Geological Units 1:50,000	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	2	-	2
Geological Structures 1:50,000	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	0	-	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	No. Features Onsite	No. Features within 100m	No. Features in Buffer
Dykes and Marker Beds 50k	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	0	0	0
Shear zones 250k	State Government Victoria - Department of Economic Development, Jobs, Transport and Resources	13/01/2015	24/06/2014	Unknown	0	-	0
Coastal Acid Sulfate Soils	The State of Victoria, Department of Economic Development, Jobs, Transport and Resources	15/07/2016	30/03/2011	None planned	0	0	0
Planning Scheme Zones	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	4	9	11
Planning Scheme Overlay	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	4	8	9
Cultural Heritage Sensitivity	State Government Victoria - Department of Planning and Community Development	03/02/2017	27/01/2017	Quarterly	0	0	0
Bushfire Prone Area	State Government Victoria - Department of Transport, Planning and Local Infrastructure	27/01/2017	27/01/2017	Quarterly	0	0	0
Fire History	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	0	0	0
Flood - 1 in 100 Year Modelled Flood Extent	State Government Victoria - Department of Environment, Land, Water & Planning	27/01/2017	27/01/2017	Quarterly	0	0	0
Native Vegetation (Modelled 2005 Ecological Vegetation Classes)	State Government Victoria - Department of Environment, Land, Water & Planning	13/01/2015	31/12/2005	None planned	2	2	3
RAMSAR Wetlands	State Government Victoria - Department of Environment, Land, Water & Planning	13/01/2015	24/06/2013	None planned	0	0	0

## Aerial Imagery 2016

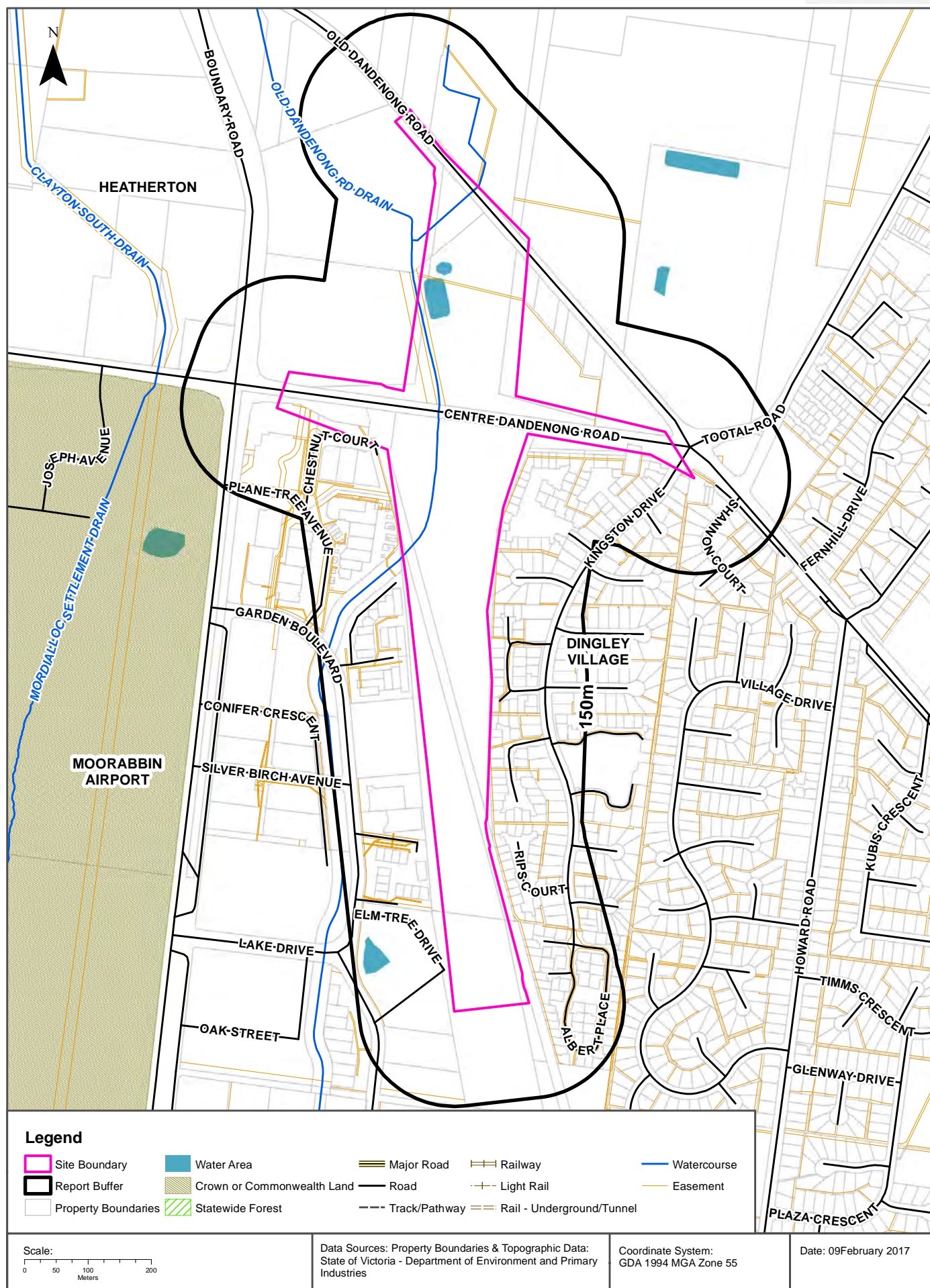
### OSAR Proposed Road Alignments - Site 26 (Section 2)





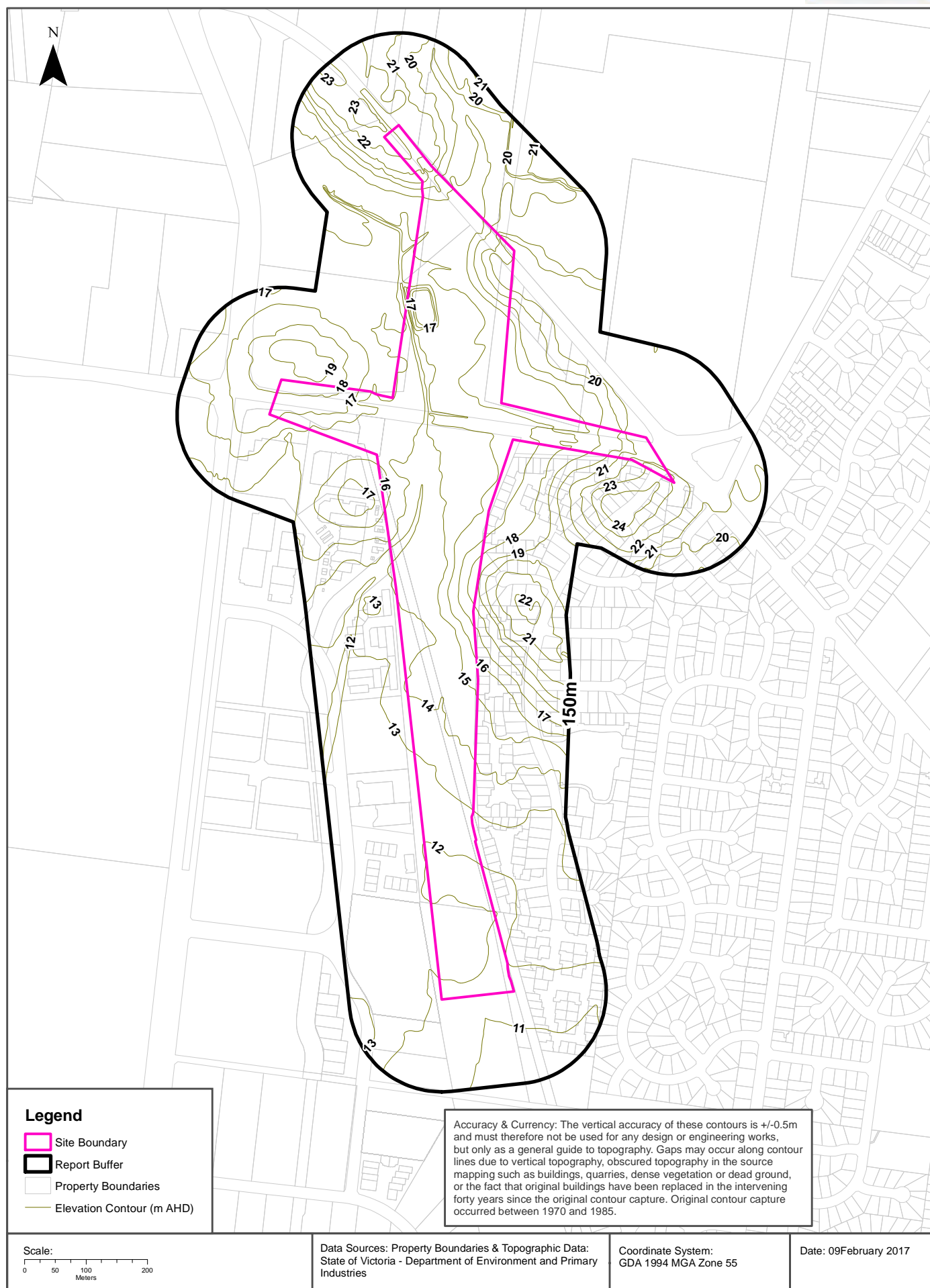
# Topographic Data

## OSAR Proposed Road Alignments - Site 26 (Section 2)



# Elevation Contours (m AHD)

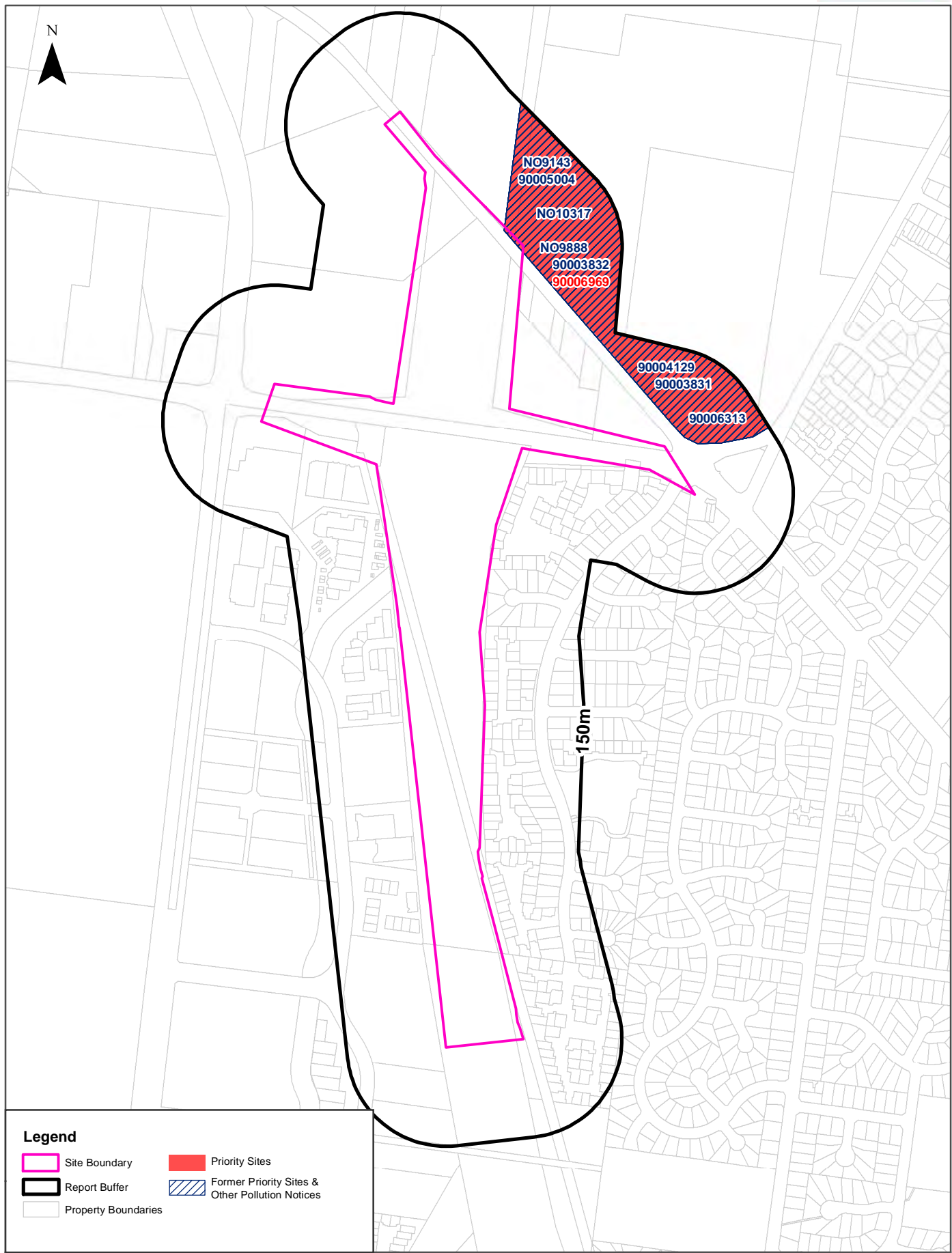
## OSAR Proposed Road Alignments - Site 26 (Section 2)





# EPA Records - Priority Sites & Pollution Notices

OSAR Proposed Road Alignments - Site 26 (Section 2)



**Legend**

- Site Boundary
- Report Buffer
- Property Boundaries
- Priority Sites
- Former Priority Sites & Other Pollution Notices

Scale: 0 50 100 200 Meters	Data Sources: Property Boundaries & Topographic Data: State of Victoria - Department of Environment and Primary Industries	Coordinate System: GDA 1994 MGA Zone 55	Date: 09February 2017
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## EPA Records

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Current EPA Priority Sites Register

What sites on the current EPA priority sites register exist within the report buffer?

Notice No	Address	Suburb	Issue	Loc Conf	Dist (m)	Direction
90006969	370 Old Dandenong RD	DINGLEY VILLAGE		Premise Match	0m	Onsite

Priority Sites Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

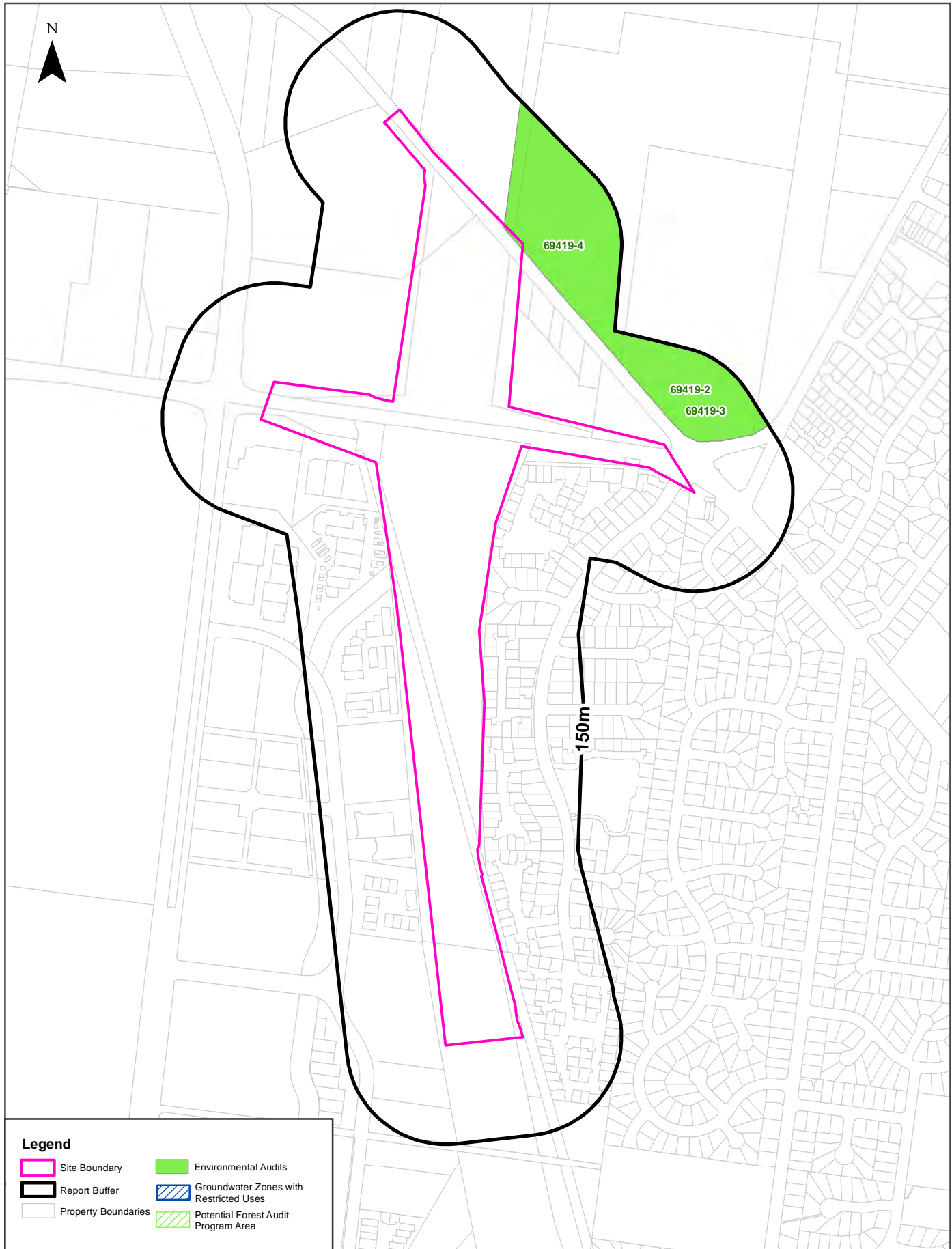
## Former EPA Priority Sites & Other Pollution Notices

What sites within the report buffer have been issued a Pollution Notice?

**Note. Due to pollution notices being revoked and removed from published lists this is not an exhaustive list of all past pollution notices.**

Notice No	Notice Type	Company	Address	Suburb	Status	Issue	Date Issued	Loc Conf	Dist	Dir
NO9888	62A(1)	ERNEST SMITH CONTRACTORS P/L	370-418 OLD DANDENONG RD	DINGLEY VILLAGE	Legacy EPA Database Pollution Notice	Current Landfill, Requires assessment and/or clean up.	10/10/2011	Premise Match	0m	Onsite
NO9143	62A(1)	ERNEST SMITH CONTRACTORS P/L	370-418 OLD DANDENONG RD	DINGLEY VILLAGE	Legacy EPA Database Pollution Notice	Current Landfill, Requires ongoing management.	24/02/2011	Premise Match	0m	Onsite
NO10317	31A(1)	ERNEST SMITH CONTRACTORS P/L	370-418 OLD DANDENONG RD	DINGLEY VILLAGE	Legacy EPA Database Pollution Notice	Current Landfill, Requires ongoing management.	03/04/2012	Premise Match	0m	Onsite
90006313	Pollution Abatement Notice	ERNEST SMITH CONTRACTORS	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Pollution Notice	AIR QUALITY - CONTAMINATION (LEGACY)	20/08/2015	Premise Match	0m	Onsite
90005004	Pollution Abatement Notice	ERNEST SMITH CONTRACTORS	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Pollution Notice		11/09/2014	Premise Match	0m	Onsite
90004129	Hydrogeological Assessment PAN	ERNEST SMITH CONTRACTORS	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Pollution Notice	LIQUID - CONTAMINATION (LEGACY)	25/09/2015	Premise Match	0m	Onsite
90003832	Previous Priority Notice, Monitoring, Rehab' & Aftercare PAN	ERNEST SMITH CONTRACTORS PROPRIETARY LIMITED	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Priority Notice	Former Landfill. Requires ongoing management	27/11/2014	Premise Match	0m	Onsite
90003831	Previous Priority Notice, Hydrogeological Assessment PAN	ERNEST SMITH CONTRACTORS PROPRIETARY LIMITED	370 Old Dandenong RD	DINGLEY VILLAGE	Previous Priority Notice	Former Landfill. Requires ongoing management	17/07/2014	Premise Match	0m	Onsite

Pollution Notice Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)



Scale: 0 50 100 200 Meters	Data Sources: Property Boundaries & Topographic Data: State of Victoria - Department of Environment and Primary Industries	Coordinate System: GDA 1994 MGA Zone 55	Date: 09February 2017
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## EPA Records

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## EPA Environmental Audits

What EPA environmental audit records exist within the report buffer?

Note. Please click on CARMS No. to activate a hyperlink to online documentation. If link does not work, documentation may still be accessible via the EPA Interaction Portal.

CARMS No	Transaction No	Site	Address	Suburb	Date Complete	Loc Conf	Distance	Direction
69419-4	8004942	370-418 OLD DANDENONG RD, DINGLEY VILLAG 370-418 OLD DANDENONG RD	370-418 OLD DANDENONG RD, DINGLEY VILLAG 370-418 OLD DANDENONG RD	DINGLEY VILLAGE	22/07/2016	Premise Match	0m	Onsite
69419-2	8004084	370-418 OLD DANDENONG ROAD DIN SAN LANDFILL	370-418 OLD DANDENONG ROAD	Dingley	30/06/2014	Premise Match	32m	North East
69419-3	8004540	370-418 OLD DANDENONG ROAD DINGLEY DIN SAN LANDFILL	370-418 OLD DANDENONG ROAD DINGLEY DIN SAN LANDFILL	DINGLEY	30/06/2015	Premise Match	32m	North East

Environmental Audit Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

## EPA Groundwater Zones with Restricted Uses

What EPA GQRUZ exist within the report buffer?

Note. Please click on CARMS No. to activate a hyperlink to online documentation.

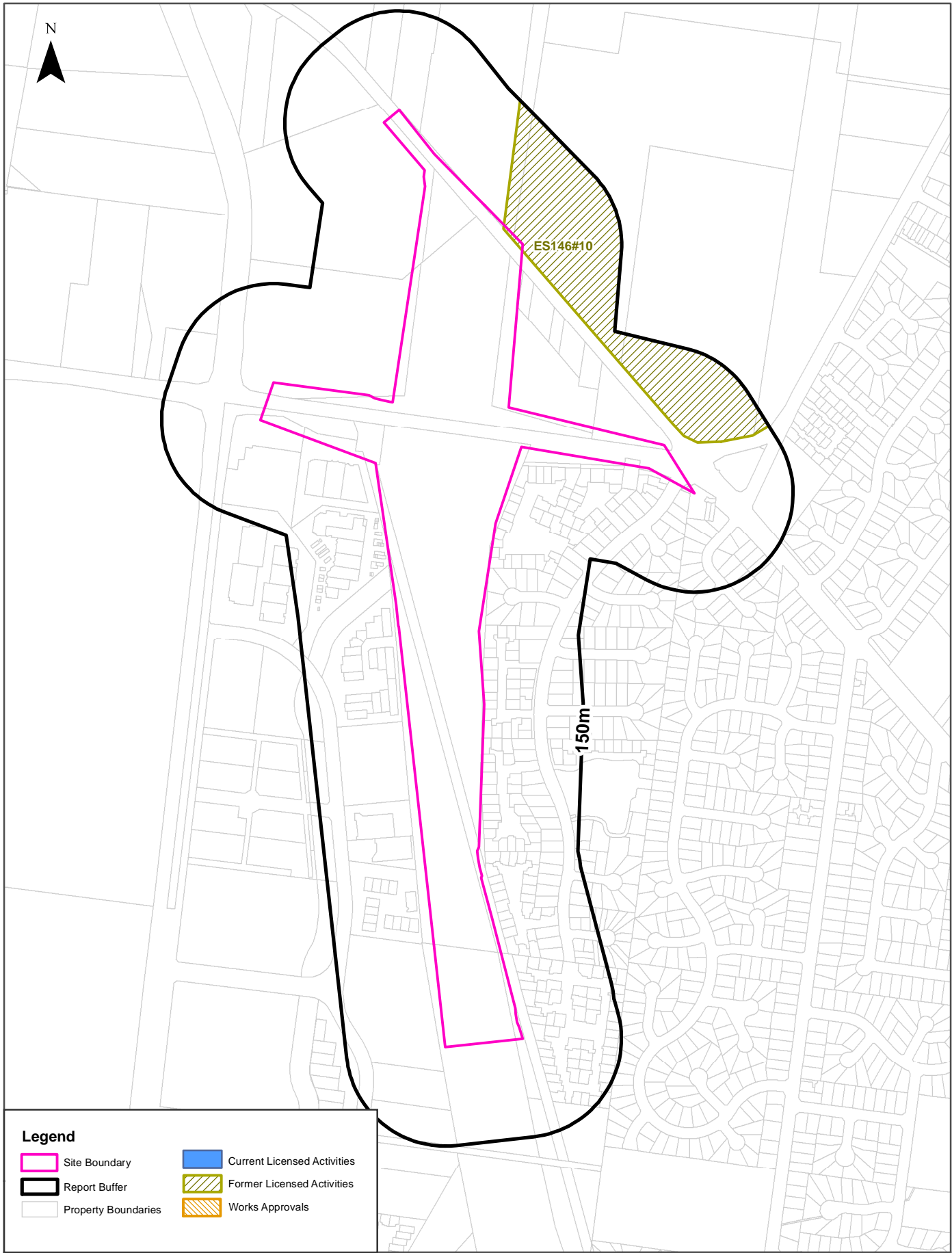
CARMS No	EPA Id	Site History	Site Address	Restricted Uses	Loc Conf	Distance	Direction
N/A	No records in buffer						

Environmental GQRUZ Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)



# EPA Records - Licensed Activities & Works Approvals

OSAR Proposed Road Alignments - Site 26 (Section 2)



Scale: 0 50 100 200 Meters	Data Sources: Property Boundaries & Topographic Data: State of Victoria - Department of Environment and Primary Industries	Coordinate System: GDA 1994 MGA Zone 55	Date: 09February 2017
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## EPA Records

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## EPA Licensed Activities

What EPA licensed activities exist within the report buffer?

Trans No	Licence No	Licence Type	Organisation	Premise Ref	Premise Address 1	Premise Address 2	Activities	Loc Conf	Dist (m)	Direction
N/A	No records in buffer									

Licensed Activity Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

## Former EPA Licensed Activities

What former EPA licensed activities exist within the report buffer?

Licence No	Organisation	Premise Address	Suburb	Activities	Loc Conf	Dist (m)	Direction
ES146#10	ERNEST SMITH CONTRACTORS PROPRIETARY LIMITED	370-418 Old Dandenong Rd	DINGLEY VILLAGE VIC 3172	A05 Landfills	Premise Match	0m	Onsite

Former Licensed Activity Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

## EPA Works Approvals

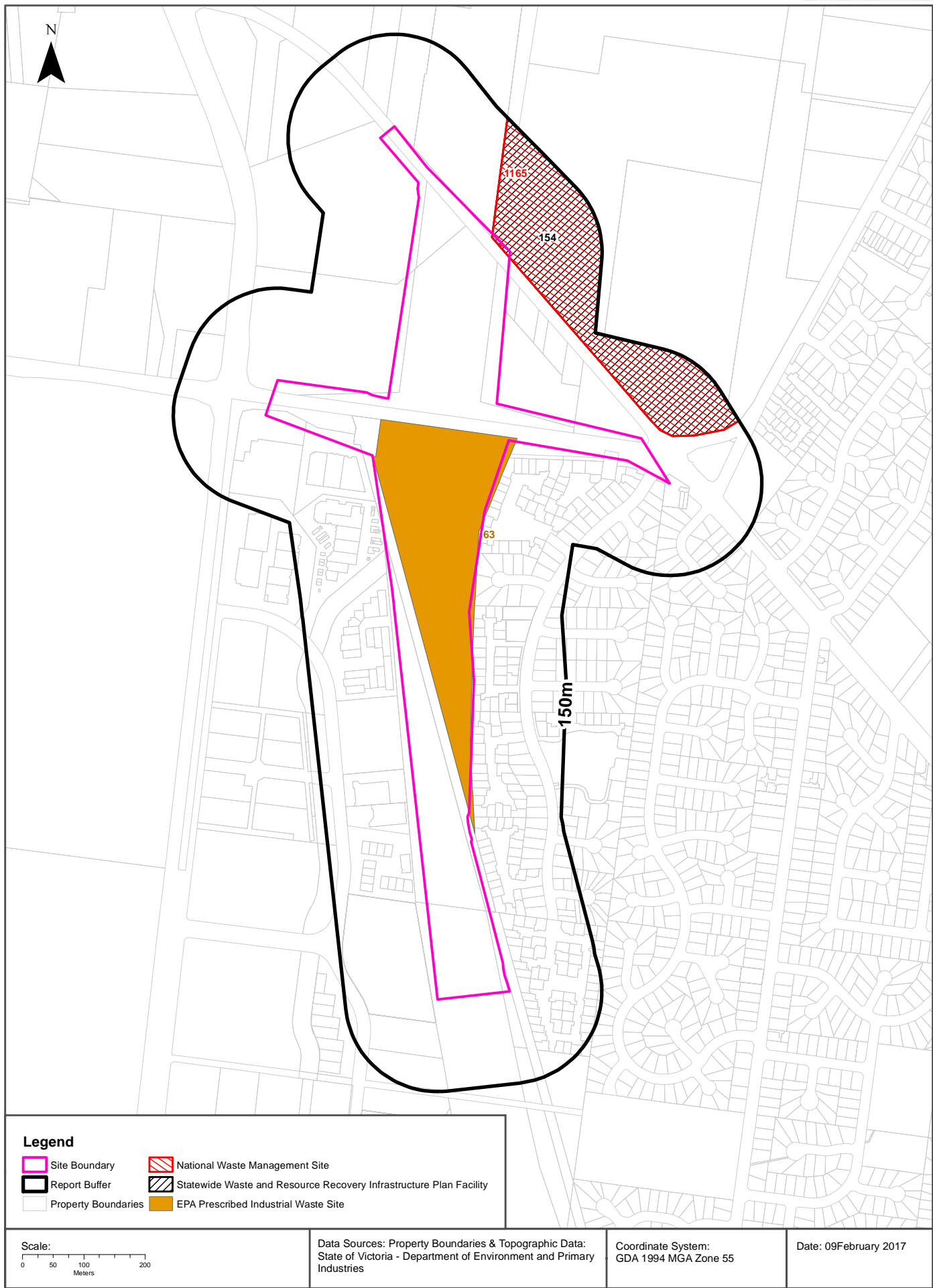
What EPA works approvals exist within the report buffer?

Transaction No	Status	Approval No	Organisation	Premise Address	Suburb	Scheduled Categories	Loc Conf	Dist (m)	Direction
N/A	No records in buffer								

Works Approvals Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

# Waste Management Facilities

## OSAR Proposed Road Alignments - Site 26 (Section 2)





## Waste Management Facilities

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## National Waste Management Site Database

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

Site Id	Owner	Name	Address	Suburb	Postcode	Landfill	Reprocess	Transfer	Loc Conf	Dist (m)	Direction
1165	Kingston Council	Ernest Smith Contractors Pty Ltd	Tootal Road	Dingley Village	3172	Operating	Not Applicable	Not Applicable	Premise Match	0m	Onsite

Waste Management Facilities Data Source: Australian Government Geoscience Australia  
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## Statewide Waste and Resource Recovery Infrastructure Plan Facilities

Statewide Waste and Resource Recovery Infrastructure Plan Facilities within the report buffer:

Map Id	Owner	Site Name	Address	Suburb	Category	Sub Category	Loc Conf	Distance	Direction
154		Ernest Smith Contractors (ES 146)	370-418 Old Dandenong Rd	Dingley Village	Landfill	Landfill	Premise Match	0m	Onsite

SWRRIPF Data Source: State Government Victoria - Department of Sustainability

## EPA Prescribed Industrial Waste

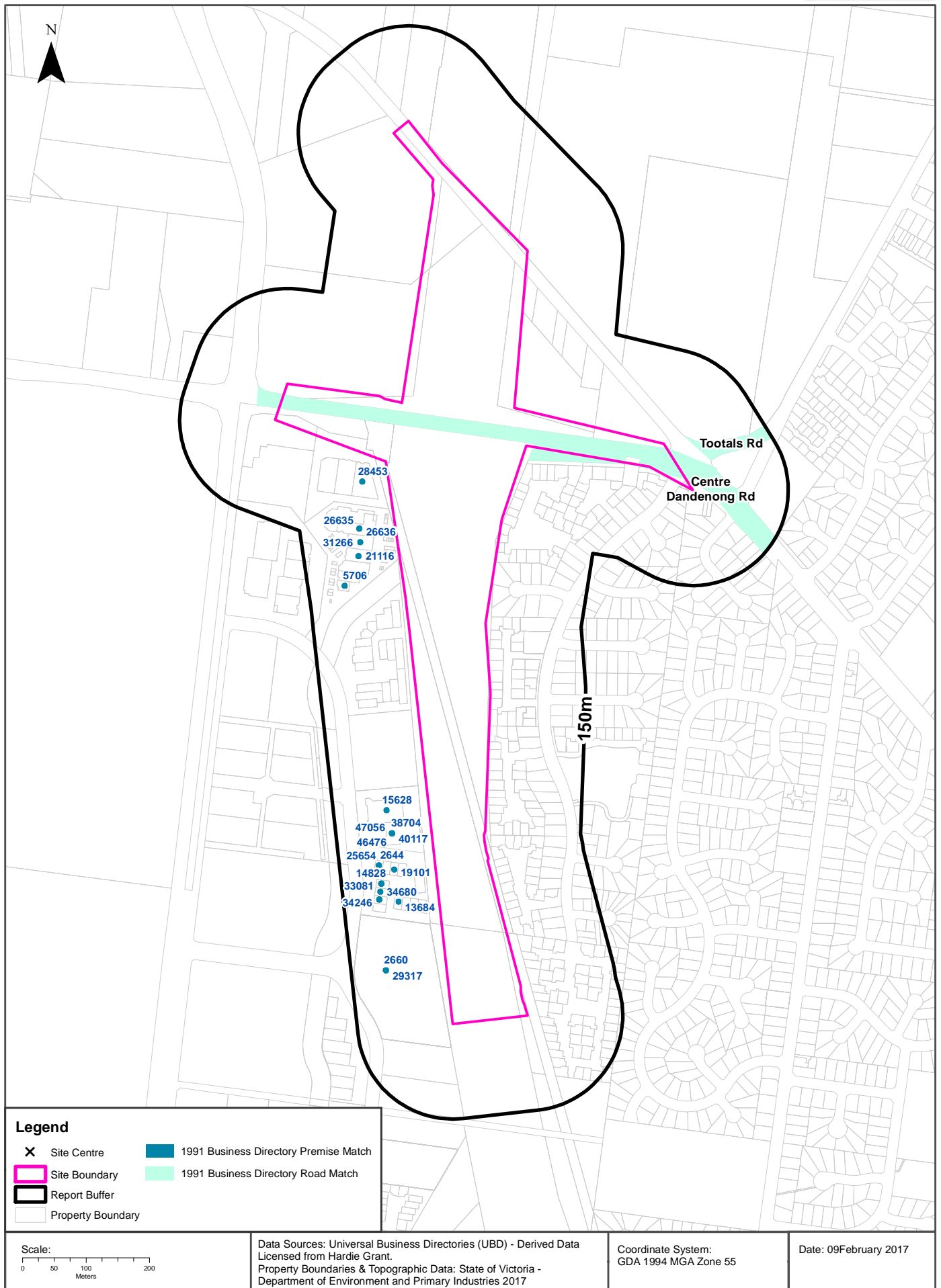
EPA Prescribed industrial waste sites within the report buffer:

Map Id	Company Name	Address	Suburb	Treatment /Disposal	Transport	Accredited Agent	EPA List Status	Loc Conf	Dist (m)	Direct
63	B.R. DEMOLITION AUSTRALIA PTY LTD [DINGLEY]	262 CENTRE DANDENONG RD	DINGLEY VILLAGE VIC 3172	No	Yes	No	Current EPA List	Premise Match	0m	Onsite

Prescribed Industrial Waste Data Custodian: State Government Victoria - Environmental Protection Authority (EPA)

# Historical Business to Business Directory Activity 1991

## OSAR Proposed Road Alignments - Site 26 (Section 2)



# Historical Business Directories

## OSAR Proposed Road Alignments - Site 26 (Section 2)

### 1991 Business to Business Directory Records

1991 UBD Business Directory Records within 150m of the site:

Activity	Organisation	Address	Ref No.	Location Confidence	Distance	Direction
Motor Garages & Service Stations	BP Dingley Village	Centre Dandenong Rd. Dingley. 3172	6065	Road Match	0m	-
Motor Garages & Service Stations	Mobil Ornoley Service Centre,	Centre Dandenong Rd Dingley. 3172	27044	Road Match	0m	-
Motor Garages & Service Stations	Morris Motor Service Centre,	Centre Dandenong Rd , Dingley. 3172	6066	Road Match	0m	-
Computer Accessories &/or Supplies	Daniel glenn Computer forms Pty. Ltd.,	Redwood gardens, 5 coniler Cr., Dingley 3172	246	Suburb/Area Match	27m	East
Swimming Pools	Dinghy Sporting Centre PTY LTD	Tootats Rd., Dingley. 3172	363	Suburb/Area Match	27m	East
Clothing Mfrs &/or W/salers - Maternity Wear	jeffries&hawkers	factory 9/2 garden byde, dingley.3172	321	Suburb/Area Match	27m	East
Boring & Drilling Plant &/or Equipment Mfrs &/or Imps &/or Dists	seismic supply internaTIONAL PTY LTD	UNIT 122 garden blade dingley 3172	247	Suburb/Area Match	27m	East
Dairies &/or Dairyemen	diamond greek diary	tootalts rd dingley 3172	26162	Road Match	33m	North East
Dairies &/or Dairyemen	dingley park dairy	tootalts rd dingley 3172	26984	Road Match	33m	North East
Garden Supplies &/or Equipment Mfrs &/or Dists &/or W/Salers	Tropian Australia Pty Ltd	1 Chestnut Crt Dingley 3172	28453	Premise Match	39m	North West
Motor Car Mfrs &/or Imps &/or Dists	Subaru (Aust) Pty Ltd	12 Plane Tree Avenue Dingley 3172	26635	Premise Match	55m	West
Motor Car Mfrs &/or Imps &/or Dists	Subaru (Aust) Pty Ltd	12 Plane Tree Avenue Dingley 3172	26636	Premise Match	55m	West
Printers Supplies & Services	B.M.L. Forme Cutting Services,	10 Plane Tree Ave., Dingley. 3172	31266	Premise Match	56m	West
Paint – Anti-Corrosive Or Protective Coating – Mfrs. &/or Imps. &/or Dists.	Blythe Colours (Australia) Pry. Ltd., Redwood Gardens Estate,	26 Garden Blvde., Dingley. 3172	40117	Premise Match	60m	South
Plastic Mfrs. Material Suppliers.	Blythe Colours (Australia) Pry. Ltd., Redwood Gardens Estate,	26 Garden Blvde., Dingley. 3172	46476	Premise Match	60m	South
Plastic Mfrs. Material Suppliers.	Blythe Colours (Australia) Pry. Ltd., Redwood Gardens Estate,	26 Garden Blvde., Dingley. 3172	47056	Premise Match	60m	South
Ceramics Mfrs &/or Suppliers	Blythe Colours (Australia) Pry. Ltd., Redwood Gardens Estate,	26 Garden Blvde., Dingley. 3172	38704	Premise Match	60m	South
Kitchenware &/or Holloware Mfrs &/or Dists	C P S Houseware Specialists	2 Holly Dr Dingley 3172	13684	Premise Match	62m	South
Manufacturers Agents	Trevan N C & Co	8 Plane Tree Ave Dingley 3172	21116	Premise Match	62m	West
X-Ray Apparatus Mfrs &/or Dists	Fishver Imagine Australia Pty Ltd	5 Fir St Dingley 3172	19101	Premise Match	63m	South
Chemical Mfrs &/or Imps &/or Dists	union carbide of australia	30 garden blvde dingley 3172	15628	Premise Match	65m	South
Air Conditioning Equipment & Parts Mfrs. &/or Imps &/or Dists	Bradway Engineering Pty Ltd	24 Garden Blvde North Dingley 3172	14828	Premise Match	85m	South
Air Conditioning Sales &/or Service	Bradway Engineering Pty Ltd	24 Garden Blvde North Dingley 3172	34680	Premise Match	85m	South
Air Conditioning Units &/or Machinery Mfrs &/or Imps &/or Dists	Bradway Engineering Pty Ltd	24 Garden Blvde North Dingley 3172	5277	Premise Match	85m	South
Oil - Essential - Mfrs. &/or Merchants	Bronson & Jacobs Pty. Ltd.	1 Fir St., Dingley. 3172	2644	Premise Match	86m	South
Chemical Mfrs &/or Imps &/or Dists	Bronson &jacobs pty ;ltd	1 fir st dingley 3172	25654	Premise Match	86m	South
Caterers Supplies	Dinkum Dog	22 Garden Blvd North, Dingley 3172	33081	Premise Match	89m	South
Taxi Truck Services	Mainway Transport	2 Plane Tree Ave., Dingley. 3172	5706	Premise Match	90m	South West



Activity	Organisation	Address	Ref No.	Location Confidence	Distance	Direction
Tool Mfrs &/or Dists	Kennametal Australia Pty Ltd	20 Garden Blvde Dingley 3172	13741	Premise Match	92m	South
Tungsten Carbide Mfrs &/or Dists	Kennametal Australia Pty Ltd	20 Garden Blvde Dingley 3172	34246	Premise Match	92m	South
Engineers Supplies	Kennametal Australia Pty Ltd	20 Garden Blvde Dingley 3172	4422	Premise Match	92m	South
Engineers - Mining	Kennametal Australia Pty Ltd	20 Garden Blvde Dingley 3172	14177	Premise Match	92m	South
Pump & Pumping Equipment Mfrs &/or Dists	Warman International Ltd	Unit 1 Business Centre 14 Garden Blvd Dingley 3172	29317	Premise Match	93m	South
Mining Machinery &/or Equipment Mfrs &/or Imps &/or Dists	Warman International Ltd	Unit 1 Business Centre 14 Garden Blvd Dingley 3172	2660	Premise Match	93m	South

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

## 1991 Business to Business Directory Garages & Service Stations

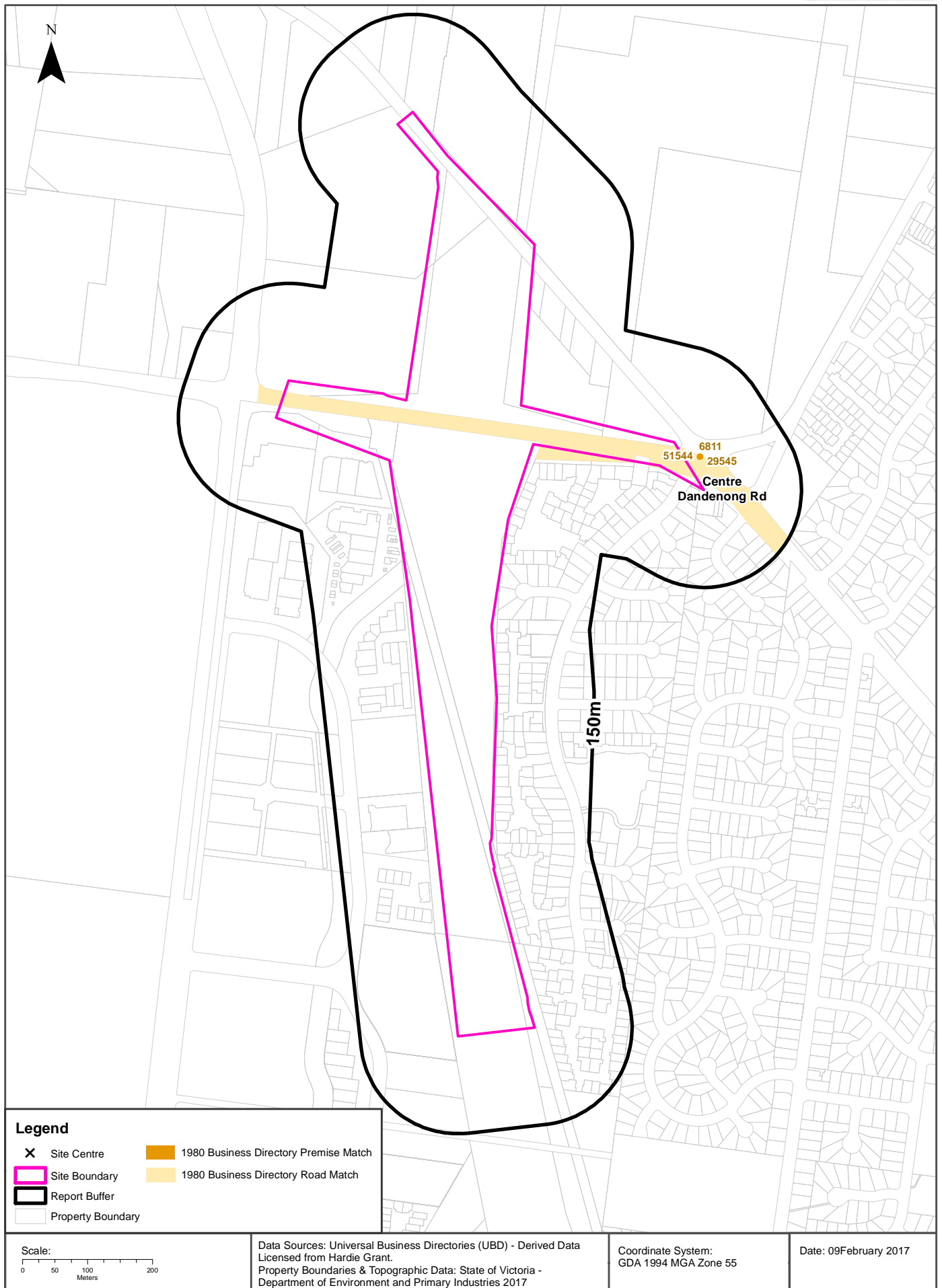
1991 UBD Business Directory Garages & Service Stations within 1km of the site:

Activity	Organisation	Address	Ref No.	Location Confidence	Distance	Direction
Motor Garages & Service Stations	BP Dingley Village	Centre Dandenong Rd. Dingley. 3172	6065	Road Match	0m	-
Motor Garages & Service Stations	Mobil Ornoley Service Centre,	Centre Dandenong Rd Dingley. 3172	27044	Road Match	0m	-
Motor Garages & Service Stations	Morris Motor Service Centre,	Centre Dandenong Rd , Dingley. 3172	6066	Road Match	0m	-

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

# Historical Business Directory Activity 1980

## OSAR Proposed Road Alignments - Site 26 (Section 2)



## Historical Business Directories

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## 1980 Business Directory Records

1980 UBD Business Directory Records within 150m of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
CHILDRENS WEAR RETAILERS.	Kids Things, Centre Dandenong Rd., Dingley.	15502	Road Match	0m	-
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Morris Motor Service Centre, Centre Dandenong Rd., Dingley.	1524	Road Match	0m	-
SQUASH COURTS.	Dingley Sporting Centre Pty. Ltd., Cnr. Tootals & Dandenong Rds., Dingley.	51544	Road Intersection	20m	East
GYMNASIUMS.	Dingley Sporting Centre Pty. Ltd., Cnr. Tootals & Dandenong Rds., Dingley.	29545	Road Intersection	20m	East
BATHS - SWIMMING.	Dingley Sporting Centre Pty. Ltd., Cnr. Tootals & Dandenong Rds., Dingley.	6811	Road Intersection	20m	East

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

## 1980 Business Directory Drycleaners, Garages & Service Stations

Drycleaners, Garages & Service Stations from the 1980 UBD Business Directory within 1km of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Morris Motor Service Centre, Centre Dandenong Rd., Dingley.	1524	Road Match	0m	-

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant



## Historical Business Directories

### OSAR Proposed Road Alignments - Site 26 (Section 2)

#### 1960 Business Directory Drycleaners, Garages & Service Stations

Drycleaners, Garages & Service Stations from the 1960 UBD Business Directory within 1km of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

#### 1950 Business Directory Records

1950 UBD Business Directory Records within 150m of the site:

Activity	Premise	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

#### 1950 Business Directory Drycleaners, Garages & Service Stations

Drycleaners, Garages & Service Stations from the 1950 UBD Business Directory within 1km of the site:

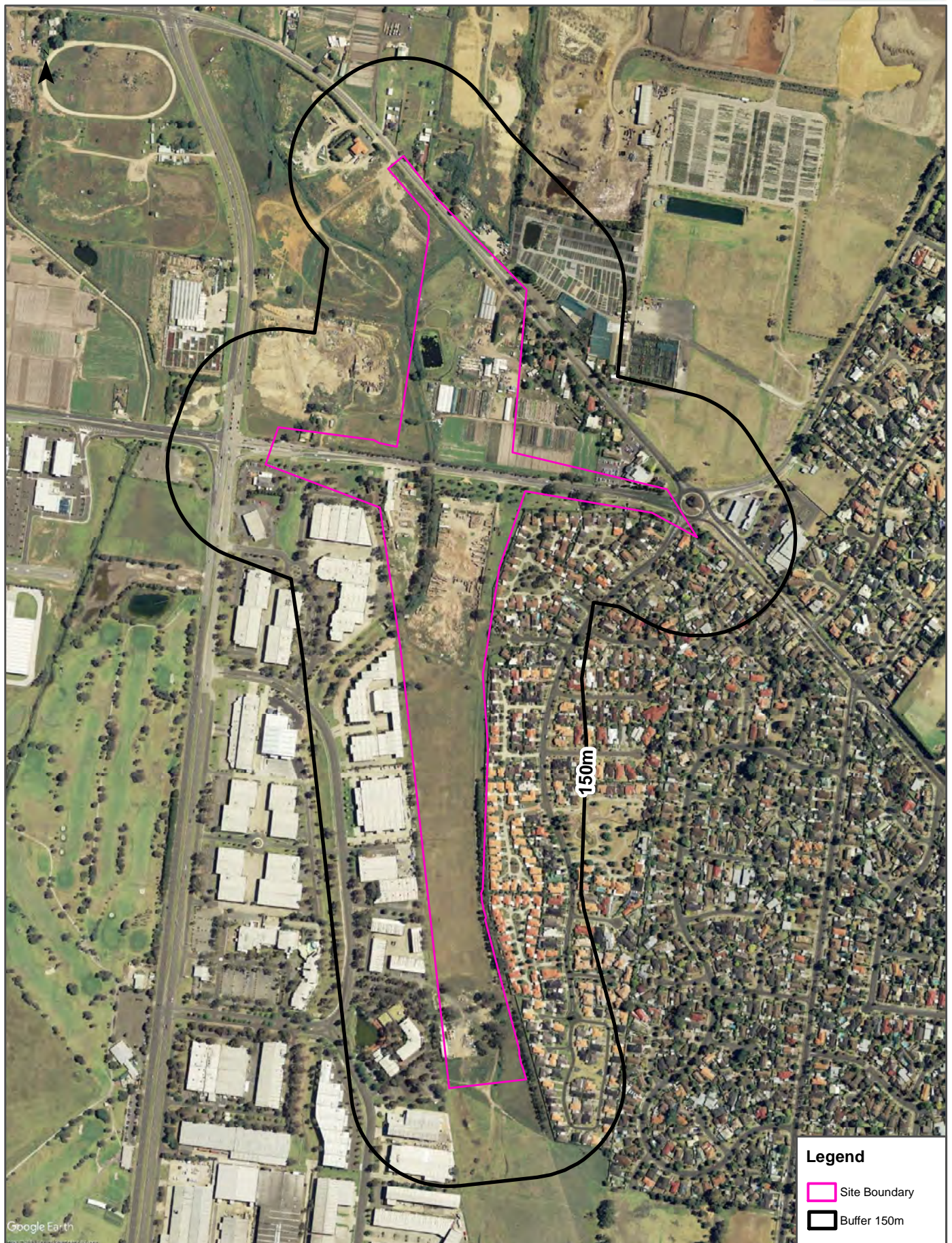
Activity	Premise	Ref No.	Location Confidence	Distance	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant



# Aerial Imagery 2009

## OSAR Proposed Road Alignments - Site 26 (Section 2)



Google Earth  
Copyright 2009 Google Inc.

### Legend

- Site Boundary
- Buffer 150m

Scale:  
0 100 200 400  
Meters

Data Sources: Aerial Imagery © 2016 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

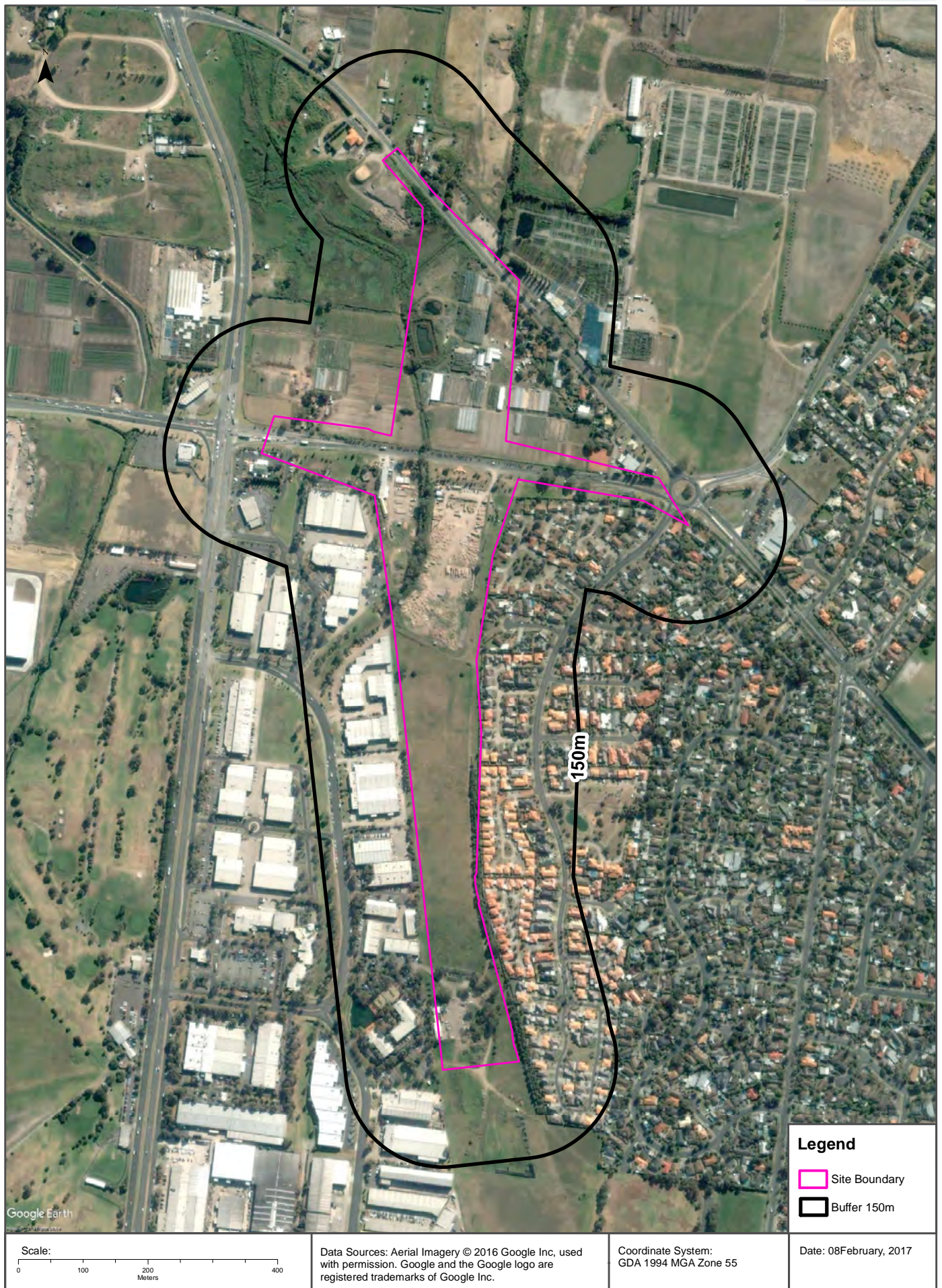
Coordinate System:  
GDA 1994 MGA Zone 55

Date: 08February, 2017



## Aerial Imagery 2005

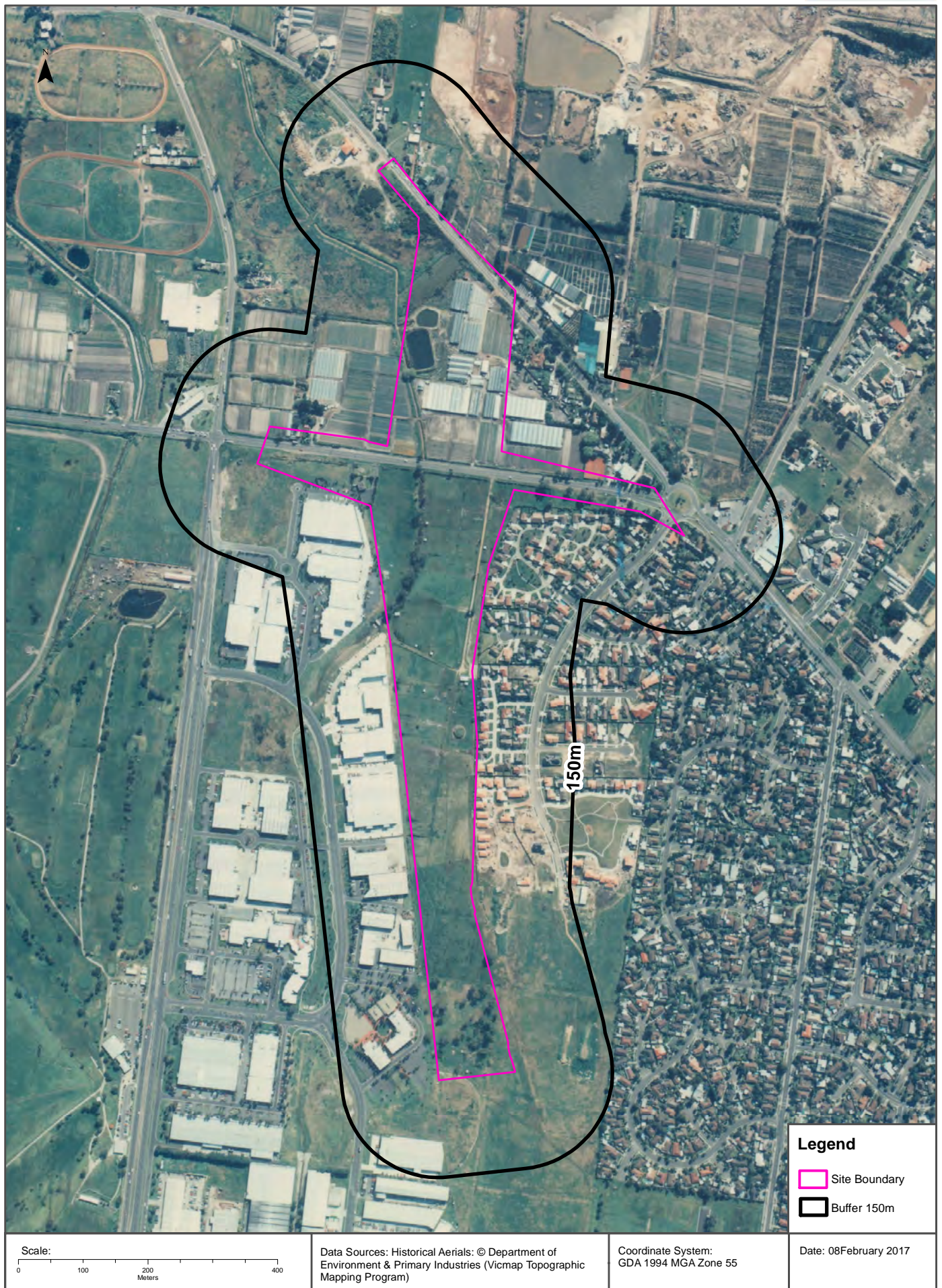
OSAR Proposed Road Alignments - Site 26 (Section 2)





## Aerial Imagery 1991

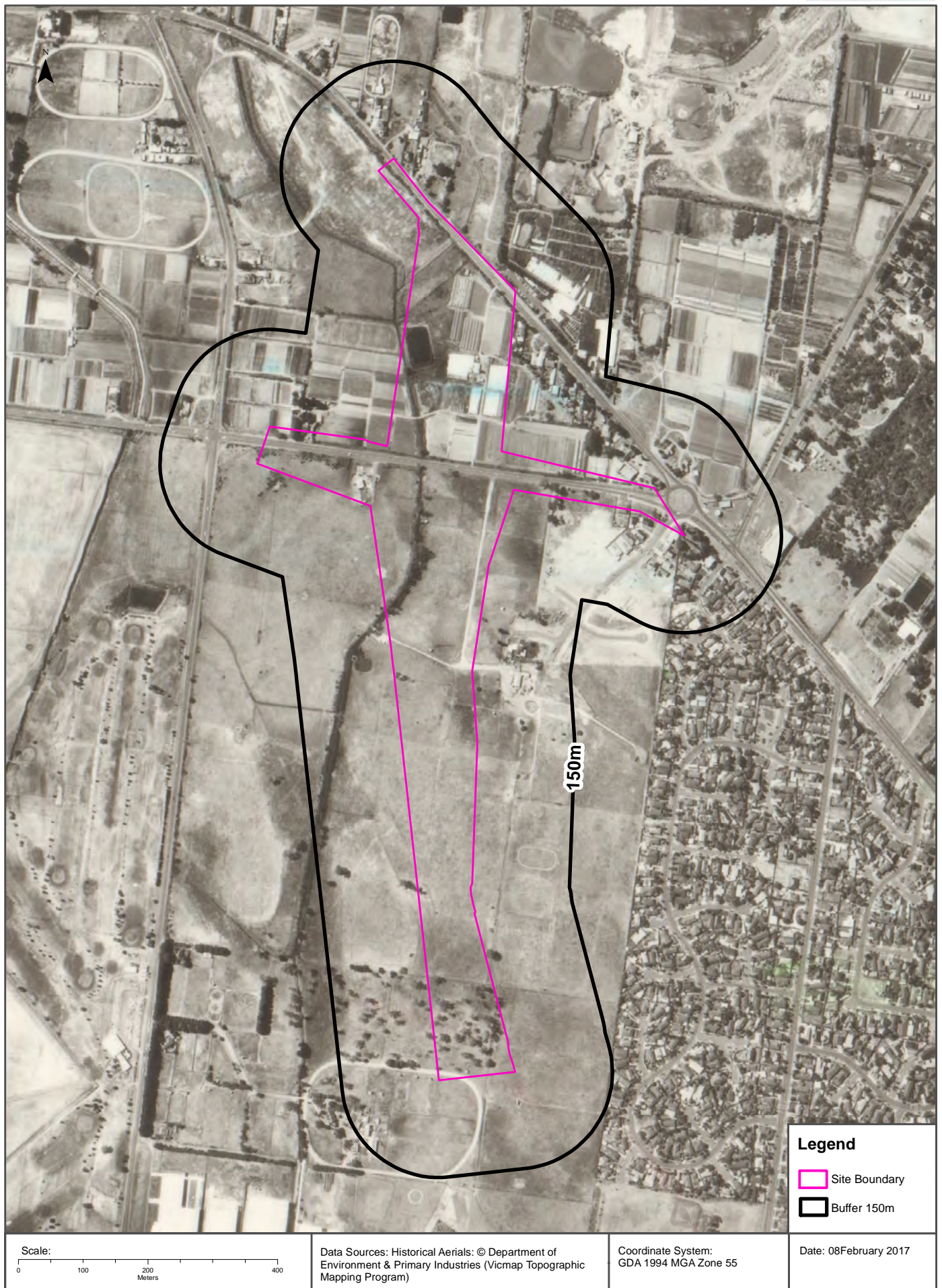
OSAR Proposed Road Alignments - Site 26 (Section 2)





## Aerial Imagery 1982

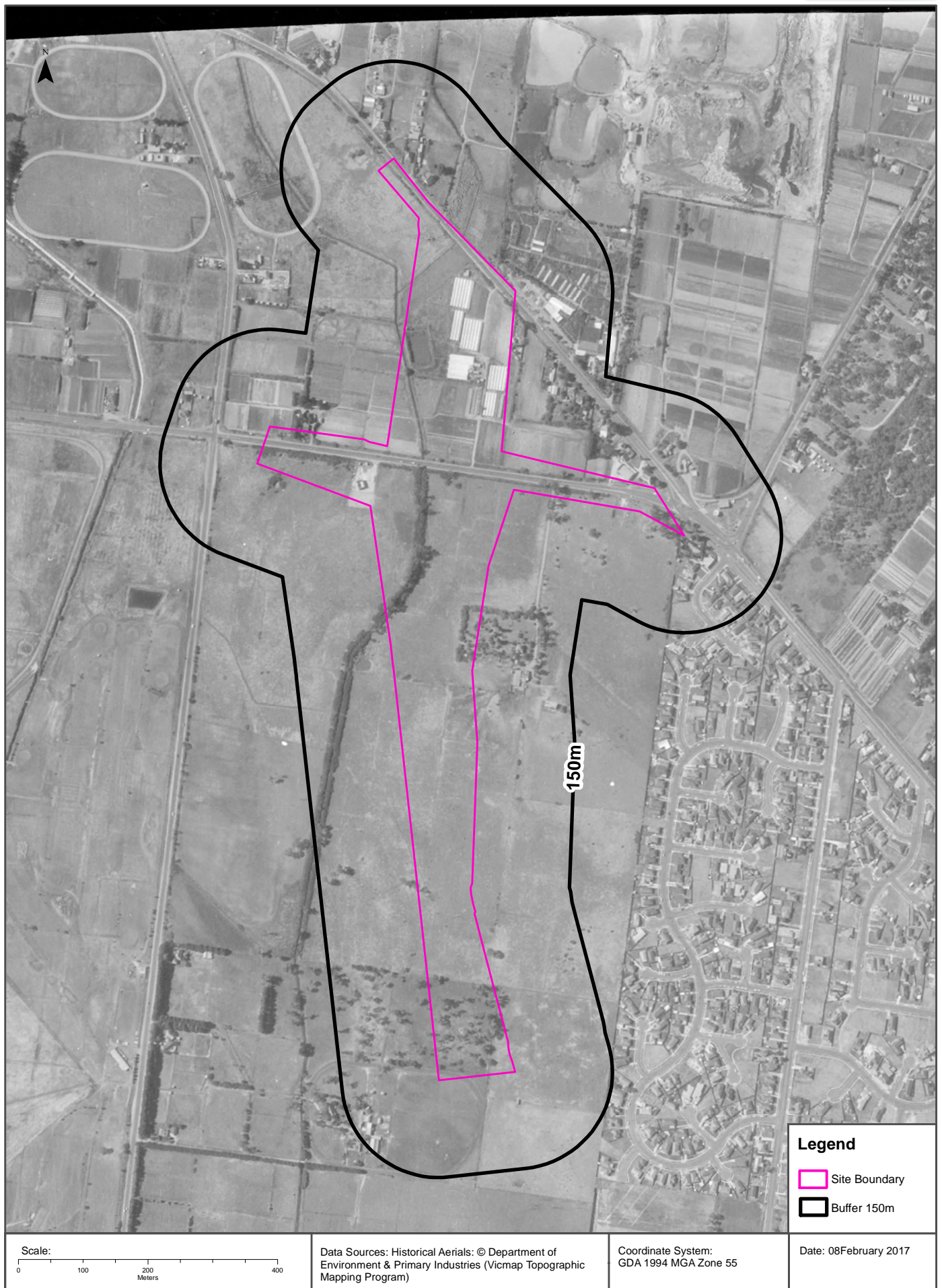
### OSAR Proposed Road Alignments - Site 26 (Section 2)





## Aerial Imagery 1974

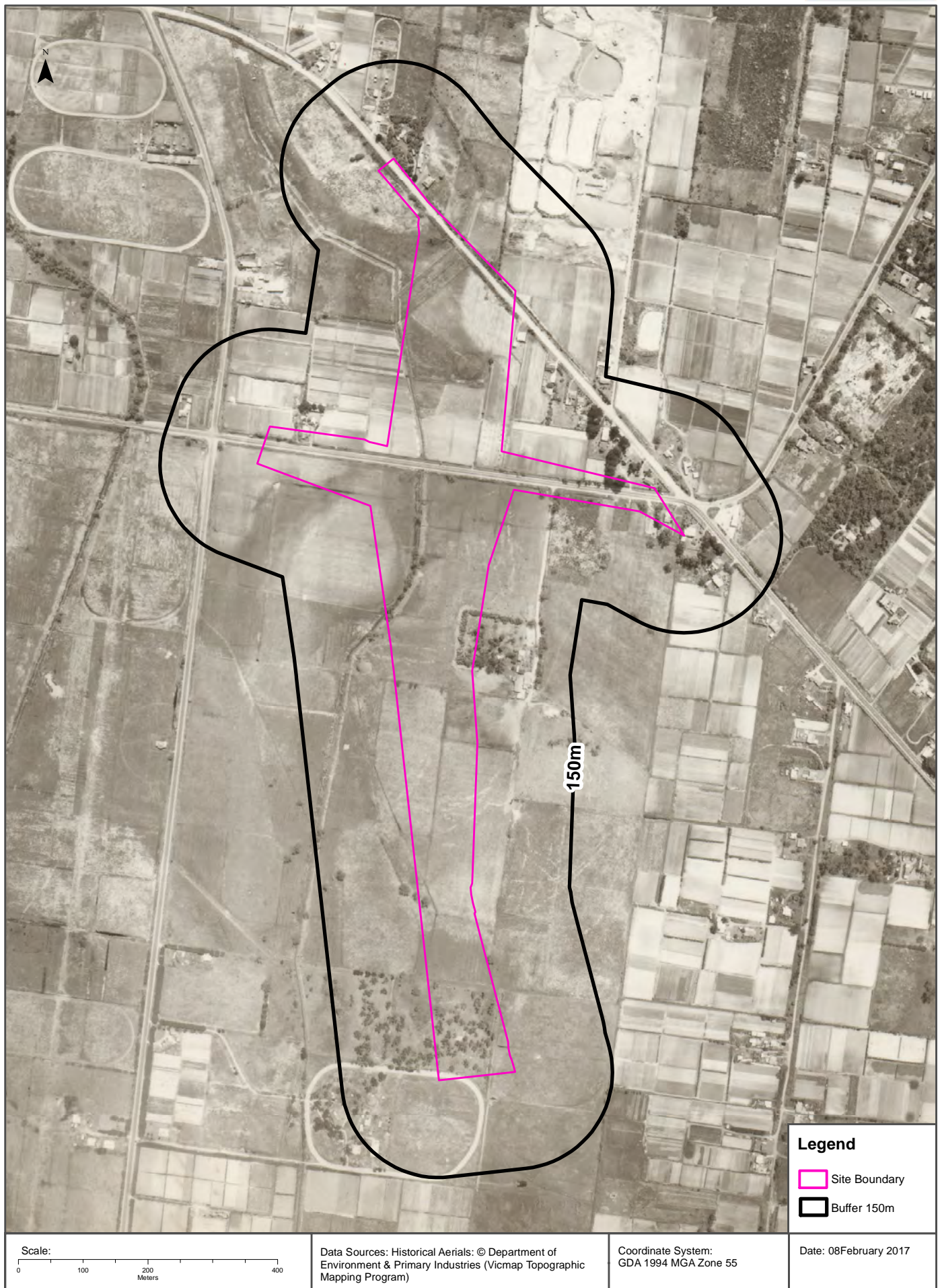
OSAR Proposed Road Alignments - Site 26 (Section 2)





## Aerial Imagery 1963

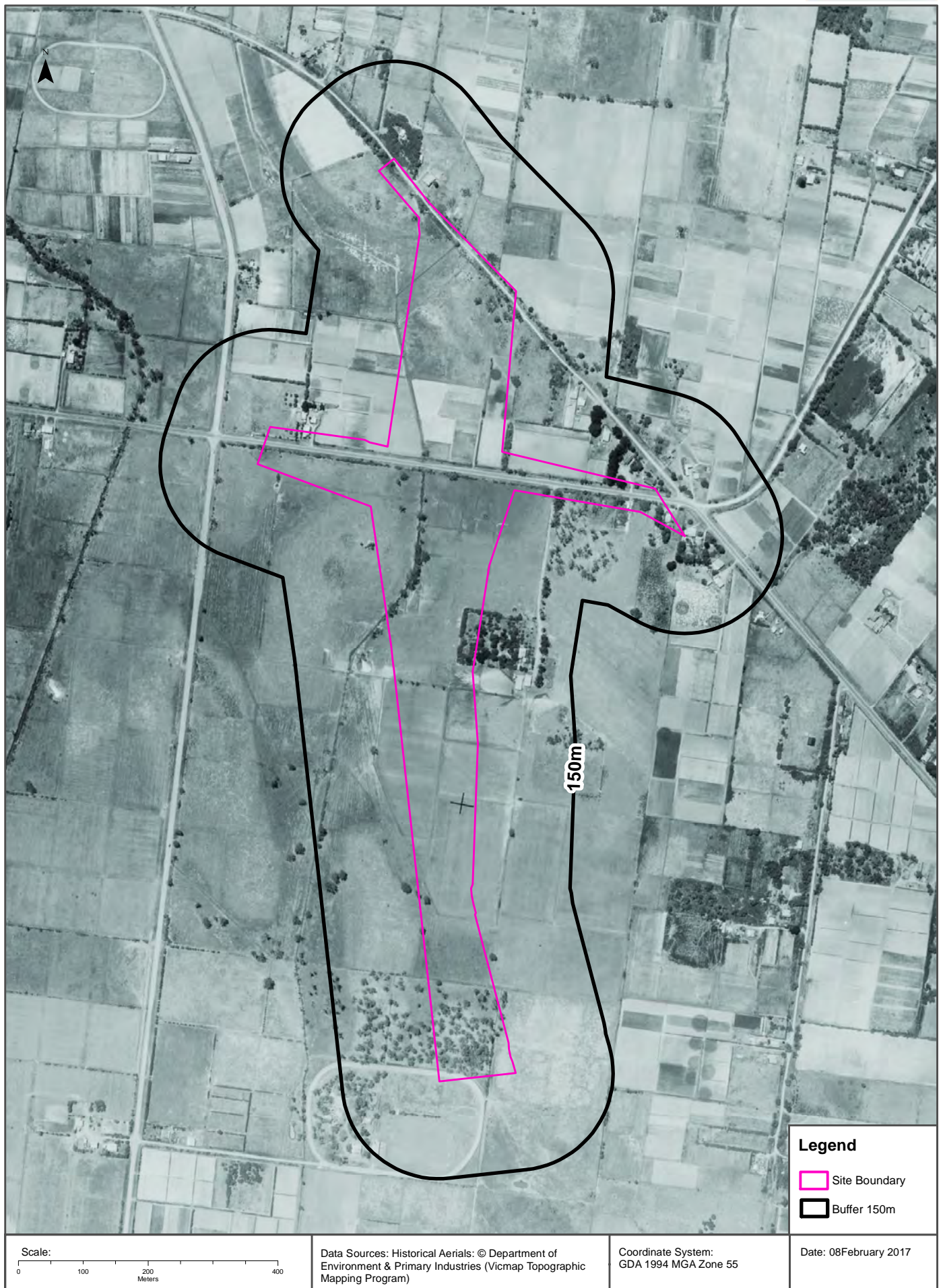
### OSAR Proposed Road Alignments - Site 26 (Section 2)





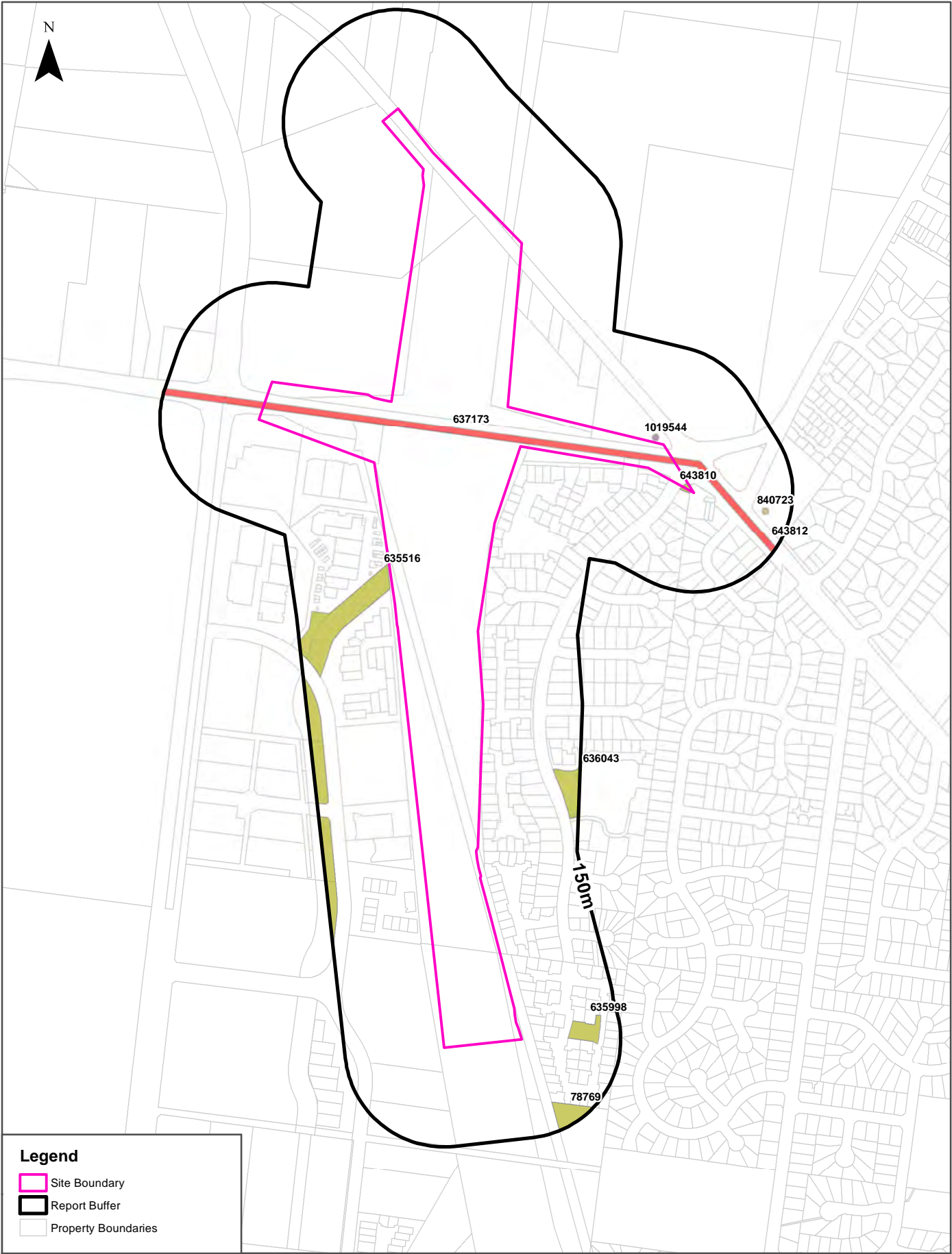
## Aerial Imagery 1951

### OSAR Proposed Road Alignments - Site 26 (Section 2)



Features of Interest

OSAR Proposed Road Alignments - Site 26 (Section 2)





## Features of Interest

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Features of Interest

Features of Interest within 1km of the site:

Feature Id	Feature Type	Feature Sub Type	Name	Distance	Direction
643810	reserve	park		0m	Onsite
637173	pipeline	gas pipeline	Dandenong - Highett	0m	Onsite
1019544	place of worship	church		2m	North East
635516	reserve	park	Melbourne Water Drainage Corridor Linear Reserve	3m	South
635998	reserve	park	Albert Place Reserve	69m	South
78769	reserve	park		105m	South
840723	care facility	child care	Goodlife Health Clubs Childcare Dingley	106m	East
636043	reserve	park	Bardoe Park	108m	South East
643812	reserve	park		149m	East

Features of Interest Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## Hydrogeology & Groundwater

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Hydrogeology

Description of aquifers within report buffer:

Description	Distance	Direction
Porous, extensive highly productive aquifers	0m	Onsite

Hydrogeology Map of Australia: Commonwealth of Australia (Geoscience Australia)

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## Groundwater Salinity

On-site Groundwater Salinity:

Groundwater Salinity	Percent Of Site Area
Less than 500 mg/l	78
500 - 1,000 mg/l	22

## Depth to Watertable

On-site Depth to Watertable:

Depth to Watertable	Percent Of Site Area
Less than 5 metres	95
5 to 10 metres	5

## Surface Elevation

Approximate on-site Surface Elevation:

Surface Elevation
12 AHDm to 23 AHDm

## Basement Elevation

Approximate on-site Basement Elevation:

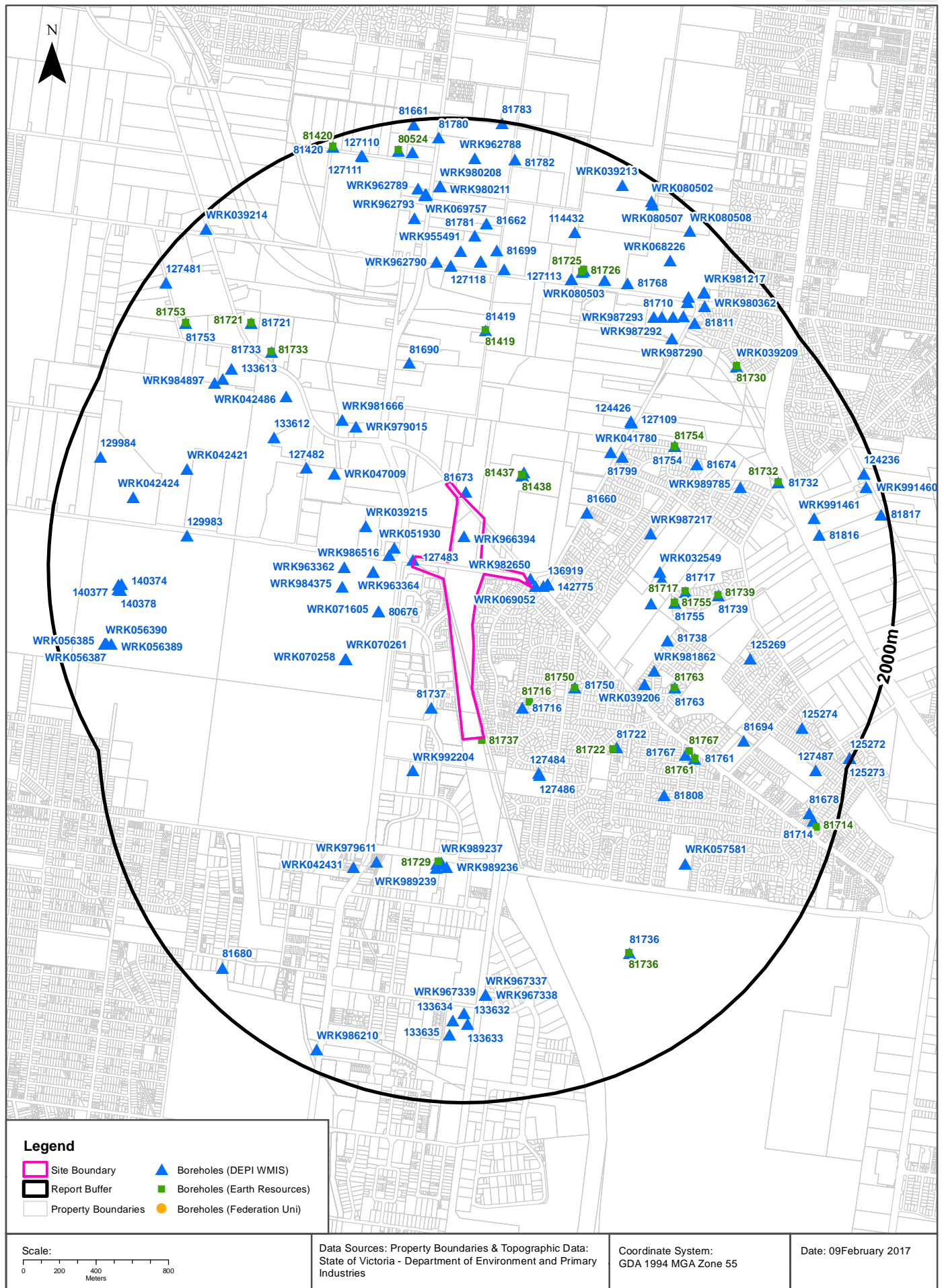
Basement Elevation - Basement Rocks comprise Lower Palaeozoic basement rocks that form the highlands and the crystalline basement; and Mesozoic rocks of the Otway and Gippsland basins both outcropping and subsurface
-47 AHDm to -24 AHDm

Groundwater Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning

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# Groundwater Boreholes

## OSAR Proposed Road Alignments - Site 26 (Section 2)





# Groundwater Boreholes

## OSAR Proposed Road Alignments - Site 26 (Section 2)

### Boreholes (DEPI WMIS)

Boreholes from the Department of Environment and Primary Industries' Water Measurement Information System, within the report buffer:

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK966394							0	Onsite
127483	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m FINE GREY SAND 1.00m-2.00m LIGHT ORANGE CLAY 2.00m-4.00m YELLOW AND GREY SANDY CLAY 4.00m-10.00m LIGHT BROWN SANDY CLAY 10.00m-12.00m ORANGE CLAYEY SAND 12.00m-15.00m GREY SAILTY CLAY	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 11.00m-12.00m OUTER LINING - GRAVEL = Bentonite 12.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1104 Quality: 43 WLMP: 5.29m DBNS: 5.34m RWL: 12.46mAHd		1996-04-18	7	North West
WRK982650							19	East
WRK069052	Observation	0.00m-0.40m FILL 0.40m-9.50m CLAY	0.00m-6.00m INNER LINING - CASING = Pvc 6.00m-9.00m INNER LINING - SCREEN = Pvc 9.00m-9.50m INNER LINING - CASING = Pvc 0.00m-5.00m OUTER LINING - GRAVEL = Cement 5.00m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-9.00m OUTER LINING - GRAVEL = Gravel		9.00m-9.50m Clay	2012-08-17	23	East
81673	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-1.22m SAND 1.22m-6.10m CLAYEY SAND 6.10m-6.40m SAND 6.40m-10.67m CLAY 10.67m-14.02m STICKY MARINE CLAY SAND 14.02m-18.29m SANDSTONE PIECES MARINE SILT SAND 18.29m-37.19m MARINE SILT CLAY 37.19m-38.71m DARK MARINE SHELL 38.71m-42.30m DARK MARINE SHELL LITTLE LIMESTONE				1970-01-06	32	North
WRK991278	Groundwater Investigation	0.00m-0.30m topsoil 0.30m-1.50m sand 1.50m-3.60m sandstone 3.60m-8.20m sand	0.00m-4.20m INNER LINING - CASING = Pvc 4.20m-8.20m INNER LINING - SCREEN = Pvc 0.00m-2.50m OUTER LINING - GRAVEL = Cement 2.50m-3.70m OUTER LINING - GRAVEL = Bentonite 3.70m-8.20m OUTER LINING - GRAVEL = Gravel			2009-05-08	64	East
142775	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-7.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	89	East
142772	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc			1998-10-22	89	East
136917	Groundwater Investigation	0.00m-0.80m SANDY SILT, BROWN, MOIST FILL 0.80m-1.00m SAND CLAY, ORANGE BROWN, PALE BROWN, YELLOW BROWN, STIFF, MO 1.00m-7.50m CLAYEY SAND FINE AND MEDIUM SAND, RED BROWN, YELLOW BROWN AN	0.00m-3.50m INNER LINING - CASING = Pvc Class 18 3.50m-7.50m INNER LINING - SCREEN = Pvc Class 18 0.00m-0.20m OUTER LINING - GRAVEL = Cement 2.30m-3.00m OUTER LINING - GRAVEL = Bentonite 3.00m-7.50m OUTER LINING - GRAVEL = Gravel			1998-10-06	89	East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
142769	Groundwater Investigation	0.00m-4.00m CLAYEY SAND 4.00m-5.00m SILTY SAND 5.00m-11.00m CLAYEY SAND	0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SCREEN = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel		6.50m-11.00m Sand	1998-08-12	89	East
142768	Groundwater Investigation	0.00m-4.00m CLAYEY SAND 4.00m-5.00m SILTY SAND 5.00m-11.00m CLAYEY SAND	0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SCREEN = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel		6.50m-11.00m Sand	1998-08-12	89	East
136918	Groundwater Investigation	0.00m-0.80m SANDY SILT, BROWN, DENSE, MOIST FILL 0.80m-7.50m CLAYEY SAND, FINE AND MEDIUM SAND, RED BROWN, YELLOW BROWN,	0.00m-4.00m INNER LINING - CASING = Pvc Class 18 4.00m-7.50m INNER LINING - SCREEN = Pvc Class 18 0.00m-0.20m OUTER LINING - GRAVEL = Cement 2.40m-3.00m OUTER LINING - GRAVEL = Bentonite 3.00m-7.50m OUTER LINING - GRAVEL = Gravel			1998-10-06	89	East
136919	Groundwater Investigation	0.00m-0.90m SILTY SAND, BROWN, MOIST FILL 0.90m-7.50m CLAYEY SAND RED BROWN, YELLOW BROWN AND PAIL GREY, MEDIUM GR	0.00m-4.00m INNER LINING - CASING = Pvc Class 18 4.00m-7.50m INNER LINING - SCREEN = Pvc Class 18 0.00m-0.20m OUTER LINING - GRAVEL = Cement 2.30m-3.00m OUTER LINING - GRAVEL = Bentonite 3.00m-7.50m OUTER LINING - GRAVEL = Gravel			1998-10-06	89	East
142773	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	89	East
142771	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	89	East
142770	Groundwater Investigation	0.00m-4.00m CLAYEY SAND 4.00m-5.00m SILTY SAND 5.00m-11.00m CLAYEY SAND	0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SCREEN = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel		6.50m-11.00m Sand	1998-08-12	89	East
142774	Groundwater Investigation		0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 1.50m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-0.00m OUTER LINING - GRAVEL = Seal			1998-10-22	89	East
WRK051930	Observation	0.00m-6.00m clay	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-6.00m INNER LINING - SCREEN = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 1.00m-2.00m OUTER LINING - GRAVEL = Bentonite 2.00m-6.00m OUTER LINING - GRAVEL = Gravel		0.00m-3.00m Clay 3.00m-6.00m Clay	2009-10-21	125	North West
WRK986516							138	North West
81737	Domestic	0.00m-3.00m TOP SOIL WITH GREY SAND 3.00m-5.00m GREY SANDY CLAY 5.00m-11.00m GREY CLAY WITH SAND 11.00m-17.00m BROWN SANDY CLAY 17.00m-59.00m BLACK CLAY 59.00m-60.00m WEATHERED MUDSTONE 60.00m-86.00m MUDSTONE	0.00m-59.20m INNER LINING - CASING = Mild Steel 59.20m-86.00m INNER LINING - SCREEN = Mild Steel		59.20m-86.00m Mudstone	1983-12-02	152	South
WRK963364							214	West

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK963363							214	West
81716	Domestic	0.00m-2.00m TOP SOIL 2.00m-6.00m CLAY 6.00m-7.00m LIGHT CLAY AND SAND 7.00m-8.00m LIGHT SAND 8.00m-10.00m COARSE SAND	0.00m-7.00m INNER LINING - CASING = Pvc 7.00m-10.00m INNER LINING - SCREEN = Pvc		7.00m-10.00m Clay	1983-06-12	241	South East
WRK071605	Irrigation					2012-10-02	306	West
80676	Not Known					1988-01-01	306	West
81437	Not Known					1985-09-20	314	North East
81438	Not Known					1985-09-20	314	North East
81421	Observation, State Observation Network	0.00m-1.20m SAND 1.20m-6.40m SANDY CLAY YELLOW 6.40m-7.90m SANDS DARK GREY 7.90m-14.90m GREEN MARL SANDY GRAVEL 14.90m-15.20m HARD STONE BAR 15.20m-21.30m GRAVEL CLAY SOME HARD BARS 21.30m-30.50m SILTY MARL GREEN 30.50m-32.00m SILTY MARL SAND GREYT MICA 32.00m-38.40m SILTY MARL SAND GREY 38.40m-39.90m DARKER SILTY CLAY 39.90m-42.10m GREEN MARL FIRM SHELLS 42.10m-44.20m HARD BAR STONE 44.20m-50.29m GREY CLAY TURNED TO STONE (BEDROCK)	0.00m-30.50m INNER LINING - CASING = Pvc 30.50m-42.70m INNER LINING - SCREEN = Pvc 42.70m-50.29m INNER LINING - CASING = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 25.90m-50.29m OUTER LINING - GRAVEL = Gravel	Date/time: 1991-12-04 0000 Quality: 43 WLMP: 4.21m DBNS: 3.34m RWL: 18.36mAH	30.50m-42.70m Marl	1973-02-21	314	North East
WRK039215	Irrigation	0.00m-5.60m STIFF YELLOW/BROWN CLAY 5.60m-10.70m GREY FINE TO MEDIUM GRAINED SAND 10.70m-29.70m YELLOW/GREY FIRM CLAYEY SAND 29.70m-40.02m YELLOW/WHITE VERY LOOSE COARSE GRAINED SAND &	0.00m-30.00m INNER LINING - CASING = Pvc 30.00m-39.50m INNER LINING - SCREEN = Pvc 39.50m-40.02m INNER LINING - CASING = Pvc 39.00m-40.02m OUTER LINING - GRAVEL = Gravel		30.00m-39.50m Sand	1990-02-20	319	North West
WRK992204	Groundwater Investigation	0.00m-0.50m fill 0.50m-5.00m brighton group sands	0.00m-2.00m INNER LINING - CASING = Pvc 2.00m-5.00m INNER LINING - SCREEN = Pvc 0.00m-0.20m OUTER LINING - GRAVEL = Cement 0.20m-1.50m OUTER LINING - GRAVEL = Bentonite 1.50m-5.00m OUTER LINING - GRAVEL = Gravel			2009-08-10	322	South
WRK046838						2006-08-10	332	North East
127484	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m DARK GREY SANDY SOIL 1.00m-2.00m ORANGY BROWN SANDY CLAY 2.00m-3.00m BROWNY ORANGE SANDY CLAY 3.00m-5.00m ORANGE GRAVELY CLAY 5.00m-13.00m ORANGE & GREY GRAVELY CLAY 13.00m-15.00m GREY SILTY SAND	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 10.00m-11.00m OUTER LINING - GRAVEL = Bentonite 11.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1042 Quality: 43 WLMP: 4.18m DBNS: 4.20m RWL: 6.95mAH		1996-04-12	359	South East
127486	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m FINE GREY SAND 1.00m-7.00m LIGHT BROWN CLAYEY SAND 7.00m-15.00m BROWN CLAYEY SAND 15.00m-30.00m SANDY MARL	0.00m-27.00m INNER LINING - CASING = Pvc 27.00m-29.00m INNER LINING - SCREEN = Pvc 29.00m-30.00m INNER LINING - CASING = Pvc 26.00m-27.00m OUTER LINING - GRAVEL = Bentonite 27.00m-30.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1043 Quality: 43 WLMP: 4.17m DBNS: 4.24m RWL: 6.88mAH		1996-04-18	368	South East
WRK963362	Domestic & Stock					2005-11-07	370	West
WRK984375							398	West
81660	Not Known					1970-12-31	484	North East
81750	Domestic	0.00m-0.50m GREY SANDY LOAM 0.50m-3.00m YELLOW CLAY 3.00m-3.15m SANDY LAYER MEDIUM 3.15m-5.00m WHITE GREY CLAY 5.00m-5.07m THIN ROCK LAYER 5.07m-5.45m COARSE SAND WITH SOME FINE CLAY 5.45m-6.00m GREY CLAY	0.00m-5.00m INNER LINING - CASING = Pvc 5.00m-5.45m INNER LINING - SCREEN = Pvc 5.45m-6.00m INNER LINING - SCREEN = Slotted Pvc		5.00m-5.45m Sand 5.45m-6.00m Clay	1984-06-04	550	South East
WRK979015							589	North West



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK070261	Observation					2012-07-05	589	South West
WRK070260	Observation					2012-07-04	591	South West
WRK070259	Observation					2012-07-03	592	South West
WRK070258	Observation					2012-07-02	593	South West
WRK047009							616	North West
WRK985144							664	East
WRK981666							672	North West
WRK989237							684	South
81729	Domestic	0.00m-3.05m CLAY 3.05m-12.19m SANDY CLAY BROWN 12.19m-21.34m SAND BROWN 21.34m-36.58m SAND GREY 36.58m-49.38m SAND BLACK	0.00m-36.58m INNER LINING - CASING = Pvc 36.58m-38.10m INNER LINING - SCREEN = Pvc 38.10m-44.50m INNER LINING - CASING = Pvc 42.98m-45.72m INNER LINING - SCREEN = Pvc		36.58m-38.10m Sand 42.98m-45.72m Sand	1982-12-23	687	South
81690	Not Known	0.00m-16.76m GREENY GREY CLAYEY SAND	0.00m-16.76m INNER LINING - CASING = Not Known 10.67m-16.76m INNER LINING - SCREEN = Not Known			1973-02-11	689	North
WRK989238							696	South
WRK989236							705	South
WRK032549	Irrigation	0.00m-4.00m TOP SOIL AND CLAY 4.00m-43.00m SAND 43.00m-50.00m SANDSTONE AND SLATE 50.00m-55.00m SANDSTONE 55.00m-73.00m GRAVEL AND COAL AND SEA SHELLS 73.00m-85.00m SANDSTONE	0.00m-43.00m INNER LINING - CASING = Steel 0.00m-74.00m INNER LINING - CASING = Steel 60.00m-85.00m INNER LINING - SCREEN = Steel			1997-10-03	711	East
WRK987217							718	East
WRK989239							718	South
81791	Not Known	0.00m-0.50m SANDY LOAM 0.50m-1.50m FINE WHITE SAND 1.50m-2.00m DARK BROWN SANDY CLAY 2.00m-15.50m LIGHT GREY & YELLOW SANDY CLAY 15.50m-19.00m DIRTY DRIFT SAND 19.00m-36.00m GREEN MARINE SILT 36.00m-37.00m BROWN COAL 37.00m-44.00m GREEN SILT & SHELL 44.00m-45.00m LIGNIOUS CLAY 45.00m-59.00m SOFT MUDSTONE				1990-09-05	719	East
81722	Domestic	0.00m-1.20m TOP SOIL 1.20m-8.00m CLAY 8.00m-9.00m RIVER SAND 9.00m-0.00m ROCK (SANDSTONE)	0.00m-6.00m INNER LINING - CASING = Pvc 6.00m-9.00m INNER LINING - SCREEN = Pvc 0.00m-1.00m OUTER LINING - GRAVEL = Cement 0.30m-0.00m OUTER LINING - GRAVEL = Seal		6.00m-9.00m Sand	1983-02-28	731	South East
127482	Groundwater Investigation, Observation, State Observation Network	0.00m-1.00m YELLOW AND GREY CLAY 1.00m-8.00m YELLOW SANDY CLAY 8.00m-15.00m SANDY MARL	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 11.00m-12.00m OUTER LINING - GRAVEL = Bentonite 12.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1124 Quality: 43 WLMP: 7.28m DBNS: 7.30m RWL: 11.34mAHD		1996-04-16	771	North West
WRK041780	Dairy						784	North East
81755	Domestic	0.00m-0.30m TOP SOIL 0.30m-7.62m CLAY 7.62m-12.80m SAND AND CLAY	0.00m-11.58m INNER LINING - CASING = Pvc 11.58m-12.80m INNER LINING - SCREEN = Pvc		11.58m-12.80m Sand	1983-06-01	792	East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81738	Domestic	0.00m-1.50m GREY LOAM AND SAND 1.50m-3.00m GREY FIRM SAND 3.00m-4.52m GREY FINE SAND AND CLAY 4.52m-6.10m GREY SAND MEDIUM COARSE 6.10m-7.62m GREY COARSE SAND 7.62m-9.10m YELLOW CLAY SOME GRIT 9.10m-10.62m FINE SAND AND CLAY 10.62m-11.30m MEDIUM FINE SAND 11.30m-12.70m GREY MEDIUM COARSE SAND 12.70m-13.70m GREY MEDIUM COARSE SAND SOME CLAY 13.70m-15.20m COARSE GREY SAND WITH CLAY 15.20m-16.70m YELLOW CLAY FINE SAND 16.70m-19.81m COARSE GREY SAND	0.00m-7.62m INNER LINING - CASING = Pvc 7.62m-18.50m INNER LINING - SCREEN = Pvc 18.50m-19.81m INNER LINING - SCREEN = Slotted Pvc		7.62m-18.50m Clay 18.50m-19.81m Sand	1983-09-14	804	East
WRK981862							817	East
WRK039206	Irrigation					1970-12-31	820	South East
WRK979611							822	South
81799	Domestic, Stock					1988-01-01	829	North East
81717	Domestic, Stock	0.00m-1.00m SAND BROWN 1.00m-1.80m SAND GREY 1.80m-3.00m CEMENTED FERRUGINOUS PIECES 3.00m-7.00m CLAYEY SAND 7.00m-8.00m GRAVEL 8.00m-10.00m SANDY CLAY 10.00m-11.00m COFFEE ROCK 11.00m-15.00m SILT GRAVEL AND BLACK SAND 15.00m-15.50m CLAYEY SAND 15.50m-16.20m GRAVEL 16.20m-0.00m ROCK	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-16.20m INNER LINING - SCREEN = Pvc 0.00m-2.00m OUTER LINING - GRAVEL = Cement		12.00m-16.20m Silt	1981-08-13	848	East
81419	Observation, State Observation Network	0.00m-1.50m TOP SOIL SAND 1.50m-4.60m CLAY AND SAND 4.60m-6.10m ORANGE CLAY SAND 6.10m-10.70m SANDY DARK CLAY 10.70m-22.90m GREEN CLAY SAND 22.90m-23.00m GRAVEL 23.00m-23.20m HARD BAR 23.20m-26.20m GREEN CLAY GRAVEL 26.20m-27.40m GREY CLAY 27.40m-39.60m GREEN SILTY CLAY WITH SHELLS 39.60m-42.98m CLAY MUD STONE	0.00m-42.98m INNER LINING - CASING = Pvc	Date/time: 1982-07-26 0000 Quality: 43 WLMP: 6.58m DBNS: 6.55m RWL: 20.12mAHD		1971-11-27	855	North
WRK042431	Irrigation	0.00m-4.60m MEDIUM GRAINED SAND 4.60m-5.60m GREY CLAY 5.60m-12.00m ORANGE/BROWN, VERY FINE SANDSTONE 12.00m-47.50m GREY SILT/SOME SHELLS AT DEPTH 47.50m-48.50m GREY SANDSTONE 48.50m-50.00m DARK GREY/SANDY LIMESTONE 50.00m-51.00m LIGHT GREY HARD LIMESTONE 51.00m-53.50m BROWN CLAY 53.50m-54.00m QUARTZ SAND 54.00m-55.00m BROWN CLAY 55.00m-57.00m COARSE SAND CEMENTED PYRITE 57.00m-59.00m LIGHT GREY CLAY 59.00m-59.50m LIGHT GREY SANDSTONE 59.50m-62.00m LIGHT GREY BASALT 62.00m-66.00m COARSE SAND/WOODY 66.00m-67.00m GREY CLAY	0.00m-59.60m INNER LINING - CASING = Abs Plastic 59.60m-62.00m INNER LINING - SCREEN = Abs Plastic 0.00m-41.00m OUTER LINING - GRAVEL = Cement 41.00m-56.30m OUTER LINING - GRAVEL = Bentonite 56.30m-65.70m OUTER LINING - GRAVEL = Gravel		59.60m-62.00m Basalt	1997-11-25	924	South West
81763	Domestic	0.00m-0.25m TOP SOIL 0.25m-0.75m ORANGE SAND 0.75m-6.00m ORANGE CLAY 6.00m-7.00m GREY CLAY 7.00m-8.00m ORANGE SANDY CLAY 8.00m-9.15m IRON STONE	0.00m-8.95m INNER LINING - CASING = Galvanised Iron 8.95m-9.15m INNER LINING - SCREEN = Galvanised Iron		8.95m-9.15m Ironstone	1982-11-12	964	South East
124426	Groundwater Investigation			Date/time: 1996-09-26 0000 Quality: 47 WLMP: 3.76m DBNS: 2.75m RWL: 27.60mAHD		1995-04-07	967	North East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
127109	Groundwater Investigation	0.00m-9.00m BACK FILL FROM TIP 9.00m-16.00m GREY CLAYEY SAND 16.00m-19.00m GREY SILTY CLAY 19.00m-20.00m MUDSTONE 20.00m-30.00m SANDY MARL	0.30m-27.00m INNER LINING - CASING = Pvc 27.00m-29.00m INNER LINING - SCREEN = Pvc 29.00m-30.00m INNER LINING - CASING = Pvc 25.50m-26.50m OUTER LINING - GRAVEL = Bentonite 26.50m-30.00m OUTER LINING - GRAVEL = Gravel			1995-11-24	967	North East
133612	Irrigation	0.00m-52.00m SILTY SANDS & CLAYEY MARLS SOME FILLING ENCOUNTERED AT 5-9 M 52.00m-150.00m FRIM GREY MUDSTONES	0.30m-52.00m INNER LINING - CASING = Steel 52.00m-150.00m INNER LINING - SCREEN = Steel 0.00m-52.00m OUTER LINING - GRAVEL = Cement		52.00m-150.00m Mudstone	1997-11-24	980	North West
WRK042486	Irrigation	0.00m-0.30m TOP SOIL 0.30m-6.00m CLAY 6.00m-14.00m SANDY CLAY 14.00m-26.00m MARL 26.00m-39.00m LIMESTONE AND CLAY 39.00m-43.00m MARL 43.00m-80.00m SHALE 80.00m-181.00m VERY HARD SHALE	0.00m-63.00m INNER LINING - CASING = Pvc 63.00m-110.00m INNER LINING - CASING = Pvc 10.00m-15.00m OUTER LINING - GRAVEL = Cement 15.00m-62.50m OUTER LINING - GRAVEL = Bentonite 62.50m-63.00m OUTER LINING - GRAVEL = Seal		110.00m-181.00m Shale	2004-03-06	1005	North West
81739	Domestic	0.00m-1.50m GREY SANDY LOAM 1.50m-4.52m YELLOW CLAY 4.52m-9.10m YELLOW ORANGE CLAY 9.10m-10.60m MEDIUM SAND AND MEDIUM COARSE GRAVEL 10.60m-12.10m YELLOW CLAY 12.10m-15.20m YELLOW CLAY, COARSE GRAVEL 15.20m-18.29m GREEN CLAY, SOME GRAVEL 18.29m-19.51m GREEN CLAY - GRAVEL	0.00m-6.40m INNER LINING - CASING = Pvc 6.40m-18.00m INNER LINING - SCREEN = Pvc 18.00m-18.50m INNER LINING - CASING = Pvc 18.50m-19.51m INNER LINING - SCREEN = Pvc		6.40m-18.00m Clay 18.50m-19.51m Clay	1983-12-13	1029	East
81808	Not Known					1988-01-01	1038	South East
81754	Not Known	0.00m-2.00m FINE BLACK SAND 2.00m-8.00m FINE/MED MUDDY ORANGE SAND 8.00m-8.10m LIGNITE 8.10m-30.00m FINE MUDDY GREY SAND				1983-05-10	1089	North East
81767	Domestic	0.00m-0.30m SURFACE SOIL 0.30m-0.60m GREY SAND 0.60m-4.20m CLAY 4.20m-14.00m SANDY CLAY 14.00m-15.80m SLOPPY CLAYEY SAND 15.80m-17.90m CLAYEY SAND WITH PIECES OF IRONSTONE	0.00m-15.80m INNER LINING - CASING = Pvc 15.80m-17.90m INNER LINING - SCREEN = Pvc 4.50m-17.90m OUTER LINING - GRAVEL = Gravel		15.80m-17.90m Sand	1983-09-01	1113	South East
81674	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-1.52m CLAY 1.52m-3.35m SANDY CLAY 3.35m-6.10m SLOPPY CLAYEY SAND 6.10m-7.62m CLAY MOTTLEY 7.62m-10.67m BROWN CLAYEY SAND 10.67m-11.28m BLACK CLAY 11.28m-17.07m MARINE STICKY SAND CLAY 17.07m-27.32m MARINE SAND CLAY SILT 27.32m-29.26m BROWN COAL CLAY 29.26m-38.71m DARK MARINE CLAY LITTLE SHELL 38.71m-39.32m SHELL MARINE CLAY WITH FEW PEBBLES 39.32m-40.23m SILT BROWN CLAY MUDSTONE WITH THIS LAYERS SANDSTONE 40.23m-50.90m SANDSTONE				1970-01-06	1127	North East
81761	Domestic, Stock	0.00m-1.00m FILL BRICK RUBBLE 1.00m-3.00m SAND YELLOW 3.00m-6.00m SANDY CLAY 6.00m-9.00m CLAY 9.00m-13.50m SAND 13.50m-0.00m BEDROCK	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-13.50m INNER LINING - SCREEN = Pvc		12.00m-13.50m Sand	1983-12-31	1164	South East
127117	Groundwater Investigation	0.00m-1.00m GREY SAND 1.00m-2.50m YELLOW AND GREY CLAYEY SAND 2.50m-4.00m YELLOW AND GREY CLAY 4.00m-6.00m YELLOW AND GREY SANDY CLAY 6.00m-9.50m FINE SAND 9.50m-11.00m BROWN COAL 11.00m-15.50m MEDIUM SAND 15.50m-22.00m GREY SILTY CLAY 22.00m-30.00m MARL CLAY	0.00m-25.00m INNER LINING - CASING = Pvc 25.00m-27.00m INNER LINING - SCREEN = Pvc 27.00m-28.00m INNER LINING - CASING = Pvc 23.50m-24.50m OUTER LINING - GRAVEL = Bentonite 24.50m-28.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-08 0000 Quality: 47 WLMP: 6.39m DBNS: 6.45m RWL: 22.81mAHD		1995-12-13	1185	North



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
127118	Groundwater Investigation	0.00m-1.00m GREY SAND 1.00m-2.50m YELLOW AND GREY CLAYEY SAND 2.50m-4.00m YELLOW AND GREY CLAY 4.00m-6.00m YELLOW AND GREY SANDY CLAY 6.00m-9.50m FINE SAND 9.50m-10.50m BROWN COAL 10.50m-15.00m MEDIUM SAND 15.00m-16.00m GREY SILTY CLAY	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 10.50m-11.50m OUTER LINING - GRAVEL = Bentonite 11.50m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-07 0000 Quality: 47 WLMP: 1.40m DBNS: 1.44m RWL: 27.82mAHD		1995-12-14	1185	North
WRK990436							1203	North
81733	Not Known	0.00m-0.35m TOP SANDY LOAM 0.35m-12.19m GREEN AND YELLOW CLAY 12.19m-13.00m BROWN WATER BEARING SANDY CLAY 13.00m-21.34m SOFT SANDY CLAY 21.34m-24.60m WATER BEARING GREY SANDY CLAY 24.60m-39.49m MEDIUM HARD SANDY CLAY	0.00m-24.38m INNER LINING - CASING = Galvanised Iron 24.38m-39.49m INNER LINING - SCREEN = Galvanised Iron		24.38m-39.49m Clay	1983-02-20	1206	North West
WRK962790	Groundwater Investigation	0.00m-2.50m DARK BROWN SAND 2.50m-4.00m DARK ORANGE SAND 4.00m-7.00m WET SAND	0.00m-7.00m INNER LINING - CASING = Pvc			2003-09-29	1208	North
WRK962792	Groundwater Investigation	0.00m-2.50m LIGHT ORANGE SAND 2.50m-3.50m PALR GREY SAND 3.50m-7.00m GREY SILTY SAND 7.00m-10.00m FINE CLAYEY SAND 10.00m-11.70m FINE PALE GREY QUARTZ GRAVEL	0.00m-11.70m INNER LINING - CASING = Pvc			2003-09-29	1220	North
WRK962791	Groundwater Investigation	0.00m-0.10m FILL, DARK GREY PEBBLY SAND 0.10m-1.00m LIGHT GREY SAND 1.00m-4.50m DARK GREY SAND 4.50m-5.00m FINE ORANGE SAND 5.00m-7.50m FINE PALE GREY SAND 7.50m-10.00m CLAYEY SAND 10.00m-12.00m LIGHT GREY/BROWN SAND 12.00m-15.00m CLAYEY SAND 15.00m-19.00m SILTY SAND 19.00m-24.50m FINE BROWN/GREY GRAVEL 24.50m-28.00m SILTY CLAY 28.00m-31.00m FINE SANDY GRAVEL 31.00m-33.00m CLAYEY SAND 33.00m-36.00m GRAVEL 36.00m-38.00m GRAVELLY SAND	30.00m-32.00m INNER LINING - CASING = Pvc 32.00m-38.00m INNER LINING - SCREEN = Pvc			2003-09-29	1225	North
129983	Groundwater Investigation, Observation	0.00m-7.00m CLAY 7.00m-11.00m SAND 11.00m-15.00m MUDSTONE 15.00m-33.00m SAND 33.00m-45.00m MUDSTONE 45.00m-54.00m GREEN MUDSTONE 54.00m-58.00m COAL 58.00m-87.00m MUDSTONE 87.00m-90.00m FRACTURED MUDSTONE & BASALT 90.00m-150.00m WEATHERED BASALT	-0.30m-4.20m INNER LINING - CASING = Not Known -0.30m-91.00m INNER LINING - CASING = Not Known 61.00m-91.00m INNER LINING - SCREEN = Not Known			1997-02-07	1249	West
125269	Groundwater Investigation, State Observation Network	0.00m-2.00m DRY SAND 2.00m-8.00m SANDY CLAY 8.00m-11.00m GRAVEL SILT & CLAY 11.00m-17.00m YELLOW SILTY CLAY 17.00m-28.00m GREY SILTY CLAY	0.00m-8.50m INNER LINING - CASING = Pvc 8.50m-10.50m INNER LINING - SCREEN = Pvc 10.50m-13.50m INNER LINING - CASING = Pvc 8.50m-13.50m OUTER LINING - GRAVEL = Gravel 13.50m-14.50m OUTER LINING - GRAVEL = Bentonite	Date/time: 2016-02-23 1019 Quality: 43 WLMP: 6.33m DBNS: 6.33m RWL: 20.88mAHD		1995-01-13	1267	East
WRK955491						2006-02-10	1271	North
WRK989785							1274	East
127114	Groundwater Investigation	0.00m-4.00m FINE GREY SAND 4.00m-7.00m YELLOW AND GREY CLAY 7.00m-9.50m GREY SANDY CLAY	0.20m-6.00m INNER LINING - CASING = Pvc 6.00m-8.00m INNER LINING - SCREEN = Pvc 8.00m-9.00m INNER LINING - CASING = Pvc 4.50m-5.50m OUTER LINING - GRAVEL = Bentonite 5.50m-9.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-08 0000 Quality: 47 WLMP: 4.61m DBNS: 3.82m RWL: 26.95mAHD		1995-12-07	1296	North

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
127113	Groundwater Investigation	0.00m-4.00m FINE GREY SAND 4.00m-7.00m YELLOW AND GREY CLAY 7.00m-9.50m GREY SANDY CLAY 9.50m-16.00m FINE GREY SAND 16.00m-19.00m FINE DARK GREY SAND 19.00m-20.00m LIGHNIOUS CLAY	0.30m-17.00m INNER LINING - CASING = Pvc 17.00m-19.00m INNER LINING - SCREEN = Pvc 19.00m-20.00m INNER LINING - CASING = Pvc 15.50m-16.50m OUTER LINING - GRAVEL = Bentonite 16.50m-20.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-08 0000 Quality: 47 WLMP: 9.46m DBNS: 8.56m RWL: 22.21mAHd		1995-12-06	1297	North
81699	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-2.74m SAND 2.74m-9.75m SANDY CLAY 9.75m-23.47m SAND WITH LAYER CLAY 23.47m-47.24m MARINE SILT LITTLE SHELL				1973-11-05	1297	North
WRK057581	Irrigation	0.00m-2.50m Sand 2.50m-3.20m sandy Clay 3.20m-6.50m Grey Clay 6.50m-13.30m Brown Sandy Clay 13.30m-18.50m Blue Clay 18.50m-20.50m Fine Sand 20.50m-29.50m Blue Clay 29.50m-32.00m Sand 32.00m-33.00m Blue Clay				2010-09-23	1305	South East
133613	Irrigation	0.00m-50.00m SILTY SANDS & CLAYEY MARLS 50.00m-150.00m SOFT GREY MUDSTONE	-0.30m-50.00m INNER LINING - CASING = Steel 50.00m-150.00m INNER LINING - SCREEN = Steel 0.00m-50.00m OUTER LINING - GRAVEL = Cement		50.00m-150.00m Mudstone	1997-11-22	1342	North West
WRK042421	Irrigation	0.00m-12.00m SAND CLAY 12.00m-18.00m SANDY SILT 18.00m-35.00m MUDSTONE 35.00m-57.00m SLATESTONE 57.00m-91.00m BASALT QUARTZ 91.00m-97.70m BASALT	-0.20m-42.00m INNER LINING - CASING = Steel -0.20m-42.50m INNER LINING - CASING = Steel 42.00m-85.00m INNER LINING - SCREEN = Steel 85.00m-97.70m INNER LINING - SCREEN = Slotted Steel			1993-01-07	1346	North West
WRK058438	Irrigation	0.00m-42.00m SAND 42.00m-55.00m MUD STONE 55.00m-68.00m BASALT 68.00m-87.00m SAND 87.00m-95.00m CLAY 95.00m-108.00m SANDSTONE	0.00m-42.50m INNER LINING - CASING = Steel 45.50m-84.50m INNER LINING - SLOT = Steel 0.00m-42.50m OUTER LINING - GRAVEL = Cement		0.00m-42.50m Mudstone 45.50m-84.50m Basalt	2009-09-21	1357	North West
81781	Not Known	0.00m-3.40m NO RETURNS 3.40m-4.90m SAND FINE/MEDIUM 4.90m-6.40m NO RETURNS 6.40m-11.00m SAND FINE/CLAYEY 11.00m-12.50m SAND FINE/MEDIUM 12.50m-26.20m SAND MEDIUM/COARSE LIGNEOUS 26.20m-32.30m SAND FINE/COARSE GRAVEL 32.30m-33.10m CLAY SANDY 33.10m-36.40m SAND GRAVEL CALCAREOUS NODULES 36.40m-36.90m CLAY SILTY 36.90m-41.50m SAND FINE SILTY 41.50m-42.20m SAND MED/COARSE 42.20m-46.00m SAND FINE SILTY CLAYEY 46.00m-47.60m SAND FINE LIMESTONE FRAGMENTS CALCAREOUS BANDS	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-33.00m INNER LINING - SCREEN = Pvc 33.00m-47.60m INNER LINING - CASING = Pvc		3.00m-33.00m Sand	1990-02-03	1359	North
81725	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-3.00m SAND 3.00m-9.10m SANDY CLAY 9.10m-15.20m CLAYEY SAND AND LIGNITE 15.20m-16.80m CONSOLIDATED LIGNITE AND SAND 16.80m-17.10m COARSE SAND AND LIGNITE 17.10m-17.40m FINE SAND AND LIGNITE 17.40m-18.90m MEDIUM COARSE SAND AND LIGNITE 18.90m-22.30m SILT WITH LAYERS OF GREY CLAY 22.30m-23.50m MARINE CLAY 23.50m-24.40m COARSE SAND 24.40m-39.60m MARINE SILT 39.60m-43.90m GREY AND GREEN SANDSTONE				1983-04-28	1362	North
81726	Not Known	0.00m-0.30m SURFACE SOIL 0.30m-5.80m SANDY CLAY 5.80m-17.10m CLAYEY SAND 17.10m-17.70m GREY CLAY 17.70m-19.50m SLOPPY GREY SANDY CLAY 19.50m-21.30m STICKY MARINE CLAY 21.30m-21.90m FINE MARINE CLAYEY SAND 21.90m-22.60m FINE MARINE SAND 22.60m-23.80m MARINE SILT				1983-05-09	1375	North

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK984897							1391	North West
81721	Stock	0.00m-0.35m TOP SANDY LOAM 0.35m-3.00m GREY CLAY 3.00m-7.00m BROWN SOFT CLAY 7.00m-9.50m GREEN CLAY 9.50m-16.20m HARD BROWN SANDY COAL CLAY 16.20m-21.00m WATER BEARING HARD AND MEDIUM HARD SANDSTONE 21.00m-27.00m SOFT SANDSTONE 27.00m-30.00m VERY SOFT GREEN SANDY CLAY 30.00m-33.00m WATER BEARING GRAVELY SOFT CLAY	0.00m-29.50m INNER LINING - CASING = Not Known 29.50m-31.20m INNER LINING - SCREEN = Not Known		29.50m-31.20m Sandstone	1983-01-05	1392	North West
WRK080503	Observation	0.00m-3.00m CLAY 3.00m-12.00m SAND	0.00m-7.50m OUTER LINING - GRAVEL = Cement 7.50m-8.50m OUTER LINING - GRAVEL = Bentonite 8.50m-12.00m OUTER LINING - GRAVEL = Gravel		9.00m-12.00m Sand	2014-07-17	1397	North East
WRK967339							1409	South
WRK967338							1409	South
WRK967337							1409	South
81694	Miscellaneous	0.00m-4.26m FINE GREY-BROWN SAND 4.26m-7.92m FIRM YELLOW BROWN SANDY CLAY 7.92m-13.72m BROWN SILTY FINE-MEDIUM SAND	0.00m-13.72m INNER LINING - CASING = Not Known 8.22m-13.72m INNER LINING - SCREEN = Not Known			1973-04-18	1428	South East
WRK987290	Groundwater Investigation	0.00m-0.70m FILL - GRAVEL 0.70m-1.20m BROWN SAND 1.20m-5.90m CLAYEY SAND 5.90m-7.00m SAND	0.00m-0.40m OUTER LINING - GRAVEL = Cement 0.40m-0.80m OUTER LINING - GRAVEL = Bentonite			2008-07-16	1429	North East
81736	Domestic	0.00m-0.30m TOP SOIL 0.30m-0.91m WHITE SAND 0.91m-3.61m CLAY 3.61m-7.01m CLAY AND FINE SAND 7.01m-9.71m SHELL GRIT AND SHALE WITH COARSE PARTS 9.71m-11.84m COARSE WATER BEARING CLAY 11.84m-16.15m CLAY SHELL GRIT AND SHALE 16.15m-24.38m SHELL, GRIT AND SHALE	0.00m-22.86m INNER LINING - CASING = Pvc 22.86m-24.38m INNER LINING - SCREEN = Pvc		22.86m-24.38m Clay	1983-08-10	1431	South East
81662	Domestic					1970-12-31	1434	North
WRK987293	Groundwater Investigation	0.00m-0.16m 0.16M CONCRETE 0.16m-0.30m FILL: SANDY GRAVEL 0.30m-0.80m FILL: SILTY SAND FINE GRAINED 0.80m-4.20m SILTY CLAY (CH) STIFF 4.20m-5.00m SANDY CLAY				2008-07-14	1438	North East
WRK962793	Groundwater Investigation	0.00m-2.00m DARK BROWN/GREY SAND 2.00m-4.00m ORANGE/BROWN SAND 4.00m-7.00m FINE GREY SAND 7.00m-7.50m COARSE SAND 7.50m-8.50m PALE GREY SANDY SILT 8.50m-12.50m SILTY SAND 12.50m-13.00m BLACK SILTY SAND	0.00m-13.00m INNER LINING - CASING = Pvc			2003-09-29	1463	North
81768	Not Known	0.00m-0.50m DARK BROWN SAND 0.50m-1.60m STIFF BROWN CLAY 1.60m-2.00m FIRM YELLOW-BROWN CLAY 2.00m-5.50m STIFF YELLOW-ORANGE CLAY AND FINE SAND 5.50m-8.50m GREY FINE TO COURSE SAND WITH DARK GREY CLAY LENSES	0.00m-7.80m INNER LINING - CASING = Pvc 7.80m-8.50m INNER LINING - SCREEN = Pvc 0.20m-8.50m OUTER LINING - GRAVEL = Gravel		7.80m-8.50m Sand	1985-09-24	1465	North East
WRK987292	Groundwater Investigation	0.00m-0.30m CONCRETE	0.00m-0.40m OUTER LINING - GRAVEL = Cement 0.40m-1.00m OUTER LINING - GRAVEL = Bentonite 1.00m-6.00m OUTER LINING - GRAVEL = Gravel			2008-07-15	1473	North East
81732	Domestic, Stock	0.00m-3.00m SANDY LOAM 3.00m-10.60m MOTTLED CLAY FIRM SANDY 10.60m-39.30m SAND, SILTY FIRM (FINE) 39.30m-42.60m SANDSTONE PIECES AND FINE SAND	0.00m-39.30m INNER LINING - CASING = Steel 39.30m-42.60m INNER LINING - SCREEN = Steel		39.30m-42.60m Sandstone	1982-11-12	1474	East
133632	Groundwater Investigation	0.00m-0.90m FILL CLAYEY SILT 0.90m-3.50m SANDY CLAY 3.50m-6.00m CLAYEY SAND				1998-01-21	1504	South



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
81710	Irrigation	0.00m-1.00m FIRM CLAYEY SAND 1.00m-6.10m VEREY STIFF SANDY CLAY 6.10m-15.20m SOFT CLAYEY SAND 15.20m-26.00m COARSE & FINE SAND 26.00m-29.00m BLUE SILT LIMESTONE PIECES & COARSE SAND 29.00m-30.50m HARD LIMESTONE BROKEN & SOME SAND 30.50m-33.50m MEDIUM HARD BLUE SHALE (CLAYEY) 33.50m-82.50m MEDIUM HARD BLUE SHALE WITH HARD LAYERS OF SANDSTONE 82.50m-152.50m HARD SANDSTONE	0.00m-34.00m INNER LINING - CASING = Steel 0.00m-76.50m INNER LINING - CASING = Steel 76.50m-152.50m INNER LINING - SCREEN = Steel			1979-01-12	1517	North East
114432	Groundwater Investigation	0.00m-12.00m SAND GREY / BROWN MEDIUM 12.00m-23.50m COARSE SAND SOME GRAVEL GREY	-0.50m-8.00m INNER LINING - CASING = Pvc 8.00m-23.50m INNER LINING - SCREEN = Pvc 0.00m-6.00m OUTER LINING - GRAVEL = Cement 6.00m-7.00m OUTER LINING - GRAVEL = Bentonite 7.00m-23.00m OUTER LINING - GRAVEL = Gravel		8.00m-23.50m Sand	1992-08-04	1534	North
133634	Groundwater Investigation	0.00m-1.00m FILL FRAVEL & SANDY CLAY 1.00m-5.50m SANDY CLAY 5.50m-6.00m CLAYEY SAND				1998-01-21	1545	South
WRK987291	Groundwater Investigation	0.00m-0.30m FILL - GRAVEL 0.30m-4.60m SANDY CLAY 4.60m-6.00m CLAYEY SAND 6.00m-6.50m SAND	0.00m-0.70m OUTER LINING - GRAVEL = Cement 0.70m-1.50m OUTER LINING - GRAVEL = Bentonite 1.50m-6.50m OUTER LINING - GRAVEL = Gravel			2008-07-14	1561	North East
133633	Groundwater Investigation	0.00m-1.30m FILL SAND & SANDY CLAY 1.30m-6.00m SANDY CLAY				1998-01-21	1564	South
WRK042424	Irrigation					1996-05-31	1579	West
81811	Not Known					1988-01-01	1581	North East
WRK069757	Observation					2012-08-02	1583	North
WRK069758	Observation					2012-08-03	1584	North
WRK069756	Observation					2012-08-02	1584	North
WRK069754	Observation	0.00m-5.00m CLAY	0.00m-2.00m INNER LINING - CASING = Pvc 2.00m-5.00m INNER LINING - SCREEN = Pvc 0.00m-1.50m OUTER LINING - GRAVEL = Bentonite 1.50m-5.00m OUTER LINING - GRAVEL = Gravel		2.00m-5.00m Clay	2012-08-02	1584	North
WRK069755	Observation					2012-08-02	1585	North
WRK991461							1599	East
140374	Groundwater Investigation	0.00m-1.00m SAND, SOME SILT & GRAVEL, DARK BROWN, LOOSE 1.00m-2.00m SANDY CLAY, FINE TO COARSE SAND, SOFT TO FIRM 2.00m-6.00m SANDY CLAY, LIGHT GREY, SAND FINE-MEDIUM, SOFT TO FIRM	0.00m-1.50m INNER LINING - CASING = Pvc Class 18 1.50m-6.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1599	West
140378	Groundwater Investigation	0.00m-1.00m SILTY SAND, DARK BROWN, FINE-COARSE GRAINED, MOIST 1.00m-3.00m SAND, SOME CLAY, GREY/ORANGE/BROWN, SAND FINE TO COARSE, MOI 3.00m-5.00m SANDY CLAY, ORANGE/GREY, FINE TO COARSE SAND, STIFF	0.00m-2.00m INNER LINING - CASING = Pvc Class 18 2.00m-5.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1607	West
81816	Groundwater Investigation	0.00m-1.00m SAND FINE WHITE 1.00m-2.74m SILTY SAND BROWN 2.74m-10.70m FINE SANDY CLAY BROWN/RED 10.70m-12.00m COARSE CLAYEY SAND BROWN 12.00m-17.45m MEDIUM GRAIN SANDY GREY 17.45m-20.00m SAND DARK BROWN/BLACK FINE TO MEDIUM	-0.30m-10.00m INNER LINING - CASING = Pvc 10.00m-20.00m INNER LINING - SCREEN = Pvc 10.00m-20.00m OUTER LINING - GRAVEL = Gravel			1991-09-03	1608	East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
140376	Groundwater Investigation	0.00m-1.00m SAND, SOME SILT & CLAY, DARK BROWN, FINE TO MEDIUM GRAINED, 1.00m-2.00m SANDY CLAY, GREY/ORANGE, FINE-MEDIUM SAND, SOFT TO FIRM 2.00m-3.00m SAND WITH SOME CLAY, FINE-MEDIUM SAND, MOIST 3.00m-4.00m SANDY CLAY, ORANGE/GREY, FINE-MEDIUM SAND, MOIST 4.00m-5.00m SANDY CLAY, ORANGE/GREY, FINE-COARSE SAND, FIRM TO STIFF	0.00m-3.00m INNER LINING - CASING = Pvc Class 18 3.00m-5.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1617	West
140377	Groundwater Investigation	0.00m-1.00m SAND, SOME SILT & CLAY, BROWN/ORANGE, FINE TO MEDIUM GRAINED 1.00m-2.00m CLAYEY SAND, MOTTLLED GREY & ORANGE, SAND FINE TO COARSE, MOI 2.00m-3.00m SAND, SOME CLAY, FINE TO MEDIUM GRAINED, MOIST 3.00m-4.00m SANDY CLAY, ORANGE/GREY, FINE TO COARSE SAND, FIRM TO STIFF 4.00m-5.00m SANDY CLAY, ORANGE/GREY, FINE TO COASE SAND, FIR TO STIFF	0.00m-2.00m INNER LINING - CASING = Pvc Class 18 2.00m-5.00m INNER LINING - SCREEN = Pvc Class 18			1999-04-13	1620	West
WRK039209	Irrigation	0.00m-0.60m TOP SOIL 0.60m-3.00m SANDY CLAY RED 3.00m-27.40m COARSE SAND AND CLAY 27.40m-36.50m CLAY 36.50m-38.40m PEAT 38.40m-60.96m SANDSTONE	0.00m-38.40m INNER LINING - CASING = Steel 38.40m-60.96m INNER LINING - SCREEN = Steel		38.40m-60.96m Sandstone	1983-02-22	1621	North East
WRK962789	Groundwater Investigation	0.00m-0.10m GARDEN BED, GRASS & MULCH 0.10m-2.00m FINE BLACK/GREY SAND 2.00m-4.00m FINE SAND 4.00m-5.00m DARK BROWN SAND 5.00m-8.00m PALE SAND 8.00m-11.50m CLAYEY SAND 11.50m-14.00m BROWN SAND	0.00m-14.00m INNER LINING - CASING = Pvc			2003-09-29	1621	North
WRK980211	Domestic & Stock		0.00m-7.00m INNER LINING - CASING = Pvc 7.00m-11.50m INNER LINING - SLOT = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.50m OUTER LINING - GRAVEL = Bentonite 6.50m-11.50m OUTER LINING - GRAVEL = Gravel			2007-04-02	1624	North
WRK980212	Domestic & Stock		0.00m-14.00m INNER LINING - CASING = Pvc 14.00m-18.00m INNER LINING - SLOT = Pvc 0.00m-11.50m OUTER LINING - GRAVEL = Cement 11.50m-13.00m OUTER LINING - GRAVEL = Bentonite 13.00m-18.00m OUTER LINING - GRAVEL = Gravel			2007-04-03	1624	North
WRK980210	Domestic & Stock		0.00m-14.00m INNER LINING - CASING = Pvc 14.00m-18.00m INNER LINING - SLOT = Pvc 0.00m-11.50m OUTER LINING - GRAVEL = Cement 11.50m-13.00m OUTER LINING - GRAVEL = Bentonite 13.00m-18.00m OUTER LINING - GRAVEL = Gravel			2007-04-03	1624	North
WRK980213	Domestic & Stock		0.00m-23.00m INNER LINING - CASING = Pvc 23.00m-26.00m INNER LINING - SLOT = Pvc 0.00m-21.00m OUTER LINING - GRAVEL = Cement 21.00m-22.00m OUTER LINING - GRAVEL = Bentonite 22.00m-26.00m OUTER LINING - GRAVEL = Gravel			2007-04-05	1624	North
WRK980205	Domestic & Stock		0.00m-6.50m INNER LINING - CASING = Pvc 6.50m-11.00m INNER LINING - SLOT = Pvc 0.00m-5.00m OUTER LINING - GRAVEL = Cement 5.00m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-11.00m OUTER LINING - GRAVEL = Gravel			2007-04-02	1624	North

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK980209	Domestic & Stock		0.00m-23.00m INNER LINING - CASING = Pvc 23.00m-26.00m INNER LINING - SLOT = Pvc 0.00m-21.00m OUTER LINING - GRAVEL = Cement 21.00m-22.00m OUTER LINING - GRAVEL = Bentonite 22.00m-26.00m OUTER LINING - GRAVEL = Gravel			2007-04-05	1624	North
WRK980208	Domestic & Stock		0.00m-7.00m INNER LINING - CASING = Pvc 7.00m-11.50m INNER LINING - SLOT = Pvc 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.50m OUTER LINING - GRAVEL = Bentonite 6.50m-11.50m OUTER LINING - GRAVEL = Gravel			2007-04-02	1624	North
133635	Groundwater Investigation	0.00m-1.50m FILL SANDY LOAM 1.50m-2.00m CLAY 2.00m-6.50m SANDY CLAY				1998-01-21	1625	South
WRK981683							1631	North East
WRK986702	Domestic & Stock	0.00m-0.10m TOP SOIL 0.10m-7.50m SANDY CLAYS	0.00m-8.00m INNER LINING - CASING = Pvc Class 18 0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-7.50m OUTER LINING - GRAVEL = Bentonite			2008-06-17	1656	North East
125274	Groundwater Investigation, State Observation Network	0.00m-1.00m DRY SAND 1.00m-6.00m SANDY CLAY 6.00m-10.00m GRAVEL SAND & CLAY (WET) 10.00m-12.00m SANDY CLAY 12.00m-35.00m GREY SANDY CLAY	0.00m-8.00m INNER LINING - CASING = Pvc 8.00m-10.00m INNER LINING - SCREEN = Pvc 10.00m-24.00m INNER LINING - CASING = Pvc 6.00m-7.00m OUTER LINING - GRAVEL = Bentonite 7.00m-12.00m OUTER LINING - GRAVEL = Gravel 24.00m-24.50m OUTER LINING - GRAVEL = Bentonite	Date/time: 2016-02-23 0952 Quality: 43 WLMP: 1.89m DBNS: 1.89m RWL: 20.83mAHD		1995-01-29	1677	East
81753	Domestic	0.00m-1.50m GREY BLACK LOAM 1.50m-3.00m BROWN SAND 3.00m-5.00m SAND GREY SILT, SOME GRAVEL 5.00m-7.00m SAND AND FINE GRAVEL 7.00m-9.00m SANDY CLAY 9.00m-13.70m COARSE GRAVEL AND SAND	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-12.40m INNER LINING - SCREEN = Pvc 12.40m-13.70m INNER LINING - SCREEN = Slotted Pvc		12.00m-12.40m Gravel 12.40m-13.70m Gravel	1985-04-01	1684	North West
WRK980362							1684	North East
WRK056389	Observation					2010-12-03	1707	West
WRK068226	Observation	0.00m-9.00m CLAY	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-9.00m INNER LINING - SCREEN = Pvc 0.00m-1.50m OUTER LINING - GRAVEL = Cement 1.50m-2.50m OUTER LINING - GRAVEL = Bentonite 3.50m-9.00m OUTER LINING - GRAVEL = Gravel		3.00m-9.00m Clay	2012-02-02	1715	North East
WRK056387	Observation					2010-12-03	1733	West
WRK057334	Domestic & Stock	67.00m-68.00m siltstone	0.00m-61.50m INNER LINING - CASING = Pvc 61.50m-67.50m INNER LINING - SCREEN = Pvc 67.50m-68.00m INNER LINING - CASING = Pvc 45.00m-48.00m OUTER LINING - GRAVEL = Cement 58.00m-60.00m OUTER LINING - GRAVEL = Bentonite 60.00m-61.00m OUTER LINING - GRAVEL = Seal		61.50m-67.50m Siltstone	2010-06-02	1734	North East
WRK981217							1736	North East
WRK056392	Observation					2010-12-03	1738	West
WRK056390	Observation					2010-12-03	1738	West
WRK056386	Observation					2010-12-03	1738	West
WRK056391	Observation					2010-12-03	1740	West



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
WRK056385	Observation	0.00m-0.40m top soil 0.40m-1.50m sand 1.50m-7.50m sandy clay	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-7.50m INNER LINING - SCREEN = Pvc 0.00m-1.50m OUTER LINING - GRAVEL = Cement 1.50m-2.50m OUTER LINING - GRAVEL = Bentonite 2.50m-7.50m OUTER LINING - GRAVEL = Gravel		3.00m-7.50m Sand	2010-12-03	1741	West
WRK056388	Observation					2010-12-03	1741	West
WRK962788	Groundwater Investigation	0.00m-4.00m FINE GRAIN SAND 4.00m-5.50m FINE LIGHT GREY SAND 5.50m-6.00m LIGHT GREY CLAYEY SAND 6.00m-11.00m FINE PALE GREY SAND 11.00m-13.00m GREY SAND 13.00m-16.00m GRAVEL				2003-09-25	1786	North
81782	Not Known	0.00m-1.80m NO RETURNS 1.80m-4.90m SAND FINE SILTY ORANGE 4.90m-6.40m NO RETURNS 6.40m-10.20m SAND COARSE WHITE SILTY 10.20m-20.70m SAND MED TO COARSE BROWN 20.70m-20.80m SAND MED TO COARSE GRAVEL GREY 20.80m-26.80m SAND GINE SILTY GREY 26.80m-27.30m GRAVEL GREY 27.30m-28.20m SAND MED SILTY GREY/GREEN 28.20m-28.80m GRAVEL/SAND MED TO COARSE 28.80m-29.30m CLAY SILTY GREEN 29.30m-30.80m SAND FINE TO COARSE GREEN 30.80m-31.40m SAND MED CLAYEY GREEN 31.40m-33.80m SAND COARSE MINOR GRAVEL 33.80m-41.50m SILT SAND CLAY CALCAREOUS BANDS CLAY NODULES	0.00m-8.00m INNER LINING - CASING = Pvc 8.00m-33.00m INNER LINING - SCREEN = Pvc 33.00m-41.50m INNER LINING - CASING = Pvc		8.00m-33.00m Sand	1990-02-06	1807	North
129984	Groundwater Investigation, Observation	0.00m-16.00m CLAY 16.00m-41.00m SAND 41.00m-56.00m MUDSTONE 56.00m-70.00m CLAY & COAL 70.00m-95.00m FRACTURED ROCK 95.00m-130.00m FRACTURED ROCK	-0.30m-48.00m INNER LINING - CASING = Not Known -0.30m-95.00m INNER LINING - CASING = Not Known 77.00m-95.00m INNER LINING - SCREEN = Not Known			1997-03-02	1817	West
81680	Not Used - Capped	0.00m-12.19m YELLOW GREY CLAY 12.19m-21.34m SANDY GRAVEL AND CLAY 21.34m-47.24m LIGHT GREY SANDY CLAY 47.24m-47.55m SMALL BAND OF LIMESTONE 47.55m-53.34m COARSE SAND - SHELL AND WOOD 53.34m-55.78m DECOMPOSED BASALT 55.78m-60.96m HARD BASALT	0.00m-56.08m INNER LINING - CASING = Not Known 0.00m-56.08m OUTER LINING - GRAVEL = Cement			1973-01-13	1822	South West
WRK042465	Irrigation					1970-12-31	1826	North
127487	Groundwater Investigation, Observation, State Observation Network	0.00m-0.50m FINE GREY SNAD 0.50m-2.00m BROWN SANDY CLAY 2.00m-4.00m YELLOW SANDY CLAY 4.00m-15.00m ORANGE CLAYEY SAND	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 11.00m-12.00m OUTER LINING - GRAVEL = Bentonite 12.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1005 Quality: 43 WLMP: 5.74m DBNS: 5.79m RWL: 18.39mAHD		1996-04-19	1832	South East
81678	Domestic, Stock	0.00m-0.91m DARK SANDY SOIL 0.91m-2.44m GREY AND BROWN SAND CLAY 2.44m-4.57m GREY BROWN CLAY 4.57m-7.31m FATTY FINE COARSE SAND 7.31m-11.28m FINE FATTY CLAYED SAND 11.28m-12.19m FINE AND COARSE SAND 12.19m-14.02m FINE AND COARSE SAND	0.00m-11.27m INNER LINING - CASING = Not Known 11.27m-12.80m INNER LINING - SCREEN = Not Known			1972-11-30	1836	South East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
80524	Not Known	0.00m-1.00m TOP SOIL 1.00m-8.00m GREY AND ORANGE CLAY 8.00m-9.00m BROWN MED COARSE SAND 9.00m-14.00m BROWN FINE/MED/COARSE SAND AND LIGNETIC SAND 14.00m-20.00m SANDY GREY AND ORANGE CLAY 20.00m-45.00m GREEN SILT AND LIMESTONE LAYERS 45.00m-46.00m DARK GREY SILTY CLAY 46.00m-51.00m GREEN SILT 51.00m-57.00m BROWN AND GREY CLAY AND WOOD 57.00m-59.00m COAL 59.00m-63.50m GREEN SILT AND GREY CLAY 63.50m-64.20m GRANODORITE				1983-09-29	1844	North
127111	Groundwater Investigation	0.00m-2.00m FINE GREY SAND 2.00m-4.20m BROWN AND GREY CLAY 4.20m-7.20m YELLOW AND GREY SANDY CLAY 7.20m-10.20m FINE GREY SAND 10.20m-10.50m DARK GREY CLAY	0.00m-7.50m INNER LINING - CASING = Pvc 7.50m-9.50m INNER LINING - SCREEN = Pvc 9.50m-10.50m INNER LINING - CASING = Pvc 6.00m-7.00m OUTER LINING - GRAVEL = Bentonite 7.00m-10.50m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-07 0000 Quality: 47 WLMP: 5.47m DBNS: 5.54m RWL: 27.40mAHd		1995-11-30	1855	North
127110	Groundwater Investigation	0.00m-2.00m FINE GREY SAND 2.00m-4.00m BROWN AND GREY SAND 4.00m-7.00m YELLOW AND GREY SANDY CLAY 7.00m-10.20m FINE GREY SAND 10.20m-11.00m DARK GREY CLAY 11.00m-19.00m FINE SAND 19.00m-23.00m FINE SAND AND GRAVEL 23.00m-25.00m FINE CLAYEY SAND 25.00m-30.00m SANDY CLAY	0.00m-17.00m INNER LINING - CASING = Pvc 17.00m-19.00m INNER LINING - SCREEN = Pvc 19.00m-20.00m INNER LINING - CASING = Pvc 15.50m-16.50m OUTER LINING - GRAVEL = Bentonite 16.50m-20.00m OUTER LINING - GRAVEL = Gravel	Date/time: 1996-10-07 0000 Quality: 47 WLMP: 8.31m DBNS: 8.35m RWL: 24.59mAHd		1995-11-30	1857	North
81714	Domestic, Stock	0.00m-3.05m TOP SOIL 3.05m-6.10m SAND 6.10m-12.19m CLAY RED 12.19m-18.29m CLAY BROWN 18.29m-24.38m GRAVEL 24.38m-39.62m GREY CLAY - ROCK LAYERS 39.62m-42.67m SAND WHITE	0.00m-18.29m INNER LINING - CASING = Pvc Class 9 18.29m-30.48m INNER LINING - SCREEN = Pvc Class 9 30.48m-41.15m INNER LINING - CASING = Pvc Class 9 41.15m-42.67m INNER LINING - SCREEN = Pvc Class 9		18.29m-30.48m Gravel 41.15m-42.67m Sand	1983-02-27	1865	South East
WRK986210							1885	South
WRK039213	Miscellaneous	0.00m-0.30m TOP SOIL 0.30m-2.40m GREY CLAY & FINE SAND 2.40m-3.60m YELLOW CLAY 3.60m-6.60m CLAY & FINE SAND 6.60m-12.10m COARSE SAND & PET 12.10m-24.00m FINE WHITE SAND 24.00m-33.40m SAND & CLAY 33.40m-40.00m FINE SAND 40.00m-43.50m GREY SANDSTONE 43.50m-76.00m BLUE/GREY SANDSTONE WITH FRACTURES	0.00m-41.00m INNER LINING - CASING = Mild Steel 42.50m-68.00m INNER LINING - SCREEN = Mild Steel			1989-10-23	1886	North
WRK080507	Observation	0.00m-3.00m CLAY 3.00m-10.00m CLAY/SAND	0.00m-5.50m OUTER LINING - GRAVEL = Cement 5.50m-6.50m OUTER LINING - GRAVEL = Bentonite 6.50m-10.00m OUTER LINING - GRAVEL = Gravel		7.00m-10.00m Sand	2014-07-17	1888	North East
81780	Not Known	0.00m-6.10m NO RETURNS 6.10m-9.10m CLAY 9.10m-11.40m SAND 11.40m-15.20m SAND LIGNEOUS NODULES 15.20m-16.80m SAND MINOR GRAVEL 16.80m-18.30m NO RETURNS 18.30m-22.10m SAND MINOR GRAVEL 22.10m-22.90m SAND 22.90m-24.40m NO RETURNS 24.40m-29.70m SAND MINOR GRAVEL 29.70m-30.50m CLAY 30.50m-36.60m SAND 36.60m-41.20m SAND CLAYEY/SILTY	0.00m-7.70m INNER LINING - CASING = Pvc 7.70m-28.70m INNER LINING - SCREEN = Pvc 28.70m-41.20m INNER LINING - CASING = Pvc		7.70m-28.70m Sand	1990-01-31	1893	North
WRK080502	Observation	0.00m-4.00m CLAY 4.00m-35.00m CLAY/SAND 35.00m-42.00m SILTSTONE	0.00m-39.00m INNER LINING - CASING = Pvc Class 9 0.00m-37.00m OUTER LINING - GRAVEL = Cement 37.00m-38.00m OUTER LINING - GRAVEL = Bentonite 38.00m-42.00m OUTER LINING - GRAVEL = Gravel		39.00m-42.00m Siltstone	2014-07-17	1897	North East

Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
127481	Groundwater Investigation, Observation, State Observation Network	0.00m-2.00m DARK GREY SAND 2.00m-7.00m YELLOW GREY CLAYEY SAND 7.00m-10.00m FINE YELLOW SAND 10.00m-15.00m FINE BROWN SAND	0.00m-12.00m INNER LINING - CASING = Pvc 12.00m-14.00m INNER LINING - SCREEN = Pvc 14.00m-15.00m INNER LINING - CASING = Pvc 11.00m-12.00m OUTER LINING - GRAVEL = Bentonite 12.00m-15.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 1145 Quality: 43 WLMP: 3.01m DBNS: 3.06m RWL: 22.18mAHd		1996-04-17	1901	North West
WRK080508	Observation	0.00m-1.00m CLAY 1.00m-15.00m FILL 15.00m-20.00m SAND	0.00m-15.50m OUTER LINING - GRAVEL = Cement 15.50m-16.50m OUTER LINING - GRAVEL = Bentonite 16.50m-20.00m OUTER LINING - GRAVEL = Gravel		17.00m-20.00m Sand	2014-07-17	1907	North East
WRK991460	Groundwater Investigation	0.00m-5.00m clay 5.00m-7.00m coarse sands	0.00m-4.00m INNER LINING - CASING = Pvc 4.00m-7.00m INNER LINING - SCREEN = Pvc 2.00m-3.00m OUTER LINING - GRAVEL = Cement 3.00m-7.00m OUTER LINING - GRAVEL = Seal			2009-06-23	1921	East
124236	Groundwater Investigation		0.00m-13.80m INNER LINING - CASING = Pvc 13.80m-17.80m INNER LINING - SCREEN = Pvc 0.00m-9.80m OUTER LINING - GRAVEL = Cement 9.80m-10.50m OUTER LINING - GRAVEL = Bentonite 10.50m-18.00m OUTER LINING - GRAVEL = Gravel			1993-12-07	1931	East
WRK039214	Irrigation	0.00m-6.50m GREY STICKY SILTY SAND 6.50m-26.00m BLACK MED GRAINED SAND 26.00m-28.90m BLACK-GREY COARSE SAND AND GRAVEL 28.90m-35.60m YELLOW/BROWN CLAYEY SAND 35.60m-40.50m GREY/BROWN MED GRAINED SAND 40.50m-52.50m VERY LOOSE MED GRAINED GREY/WHITE SAND 52.50m-54.38m SOFT TO HARD GREY/BROWN WEATHERED ROCK	0.00m-54.38m INNER LINING - CASESCRN = Not Known			1990-07-29	1932	North West
81420	Observation	0.00m-1.50m SAND 1.50m-4.60m SANDY CLAY 4.60m-9.10m SAND 9.10m-10.70m DARK CLAY COAL 10.70m-13.70m SANDY CLAY 13.70m-14.30m BAND BLACK COAL 14.30m-18.30m SAND SOME COARSE GRAVEL 18.30m-25.30m GREEN SILTY CLAY 25.30m-27.40m COURSE GRAVEL CLAY 27.40m-29.60m SILTY SAND 29.60m-33.20m HARD BAND STONE 33.20m-44.80m FINE SILTY SANDS 44.80m-45.40m BAND HARD STONE 45.40m-47.20m GREEN DIRTY MARL SAND 47.20m-48.80m SILTY CLAY 48.80m-49.40m BAND OF HARD STONE 49.40m-50.00m GREEN CLAY 50.00m-50.60m STONE 50.60m-56.40m BROWN CLAY 56.40m-58.20m DECOM CLAY COAL 58.20m-60.96m MUDSTONE	0.00m-60.96m INNER LINING - CASING = Pvc	Date/time: 1975-10-22 0000 Quality: 47 WLMP: 6.33m DBNS: 6.30m RWL: 27.34mAHd		1973-01-31	1951	North
81817	Groundwater Investigation	0.00m-1.00m SAND BROWN GREY 1.00m-4.00m CLAYEY BROWN MEDIUM SAND 4.00m-6.00m CLAYEY MEDIUM GREY SAND 6.00m-6.75m COARSE GREY SAND 6.75m-10.50m FINE GREY SAND 10.50m-19.67m DARK BROWN & GREY FINE & COARSE SAND SOME BLACK	-0.30m-10.00m INNER LINING - CASING = Pvc 10.00m-19.67m INNER LINING - SCREEN = Pvc 10.00m-19.67m OUTER LINING - GRAVEL = Gravel			1991-09-04	1964	East
81661	Domestic					1970-12-31	1975	North
125273	Groundwater Investigation, State Observation Network	0.00m-0.50m DRY SAND 0.50m-2.00m CLAY 2.00m-5.50m SANDY CLAY 5.50m-8.00m SANDY SILT & GRAVEL 8.00m-11.00m GRAVEL & CLAY (WET) 11.00m-12.00m SANDY CLAY	0.00m-8.00m INNER LINING - CASING = Pvc 8.00m-11.00m INNER LINING - SCREEN = Pvc 11.00m-12.00m INNER LINING - CASING = Pvc 5.00m-6.00m OUTER LINING - GRAVEL = Bentonite 6.00m-12.00m OUTER LINING - GRAVEL = Gravel	Date/time: 2016-02-23 0939 Quality: 43 WLMP: 6.20m DBNS: 6.20m RWL: 19.91mAHd		1995-01-26	1987	East



Bore Id	Use Type	Drillers Log	Construction	Latest Water Levels	Geology	Completed Date	Dist (m)	Dir
125272	Groundwater Investigation, State Observation Network	0.00m-0.50m DRY SAND 0.50m-2.00m CLAY 2.00m-5.50m SANDY CLAY 5.50m-8.00m SAND SILT & CLAY 8.00m-11.00m GRAVEL & CLAY (WET) 11.00m-16.00m SANDY CLAY 16.00m-18.00m GREY SILT SANDY CLAY 18.00m-23.50m DIRTY SAND & GRAVEL (WET) 23.50m-40.00m GREY SILTY CLAY	0.00m-20.50m INNER LINING - CASING = Pvc 20.50m-22.50m INNER LINING - SCREEN = Pvc 22.50m-40.00m INNER LINING - CASING = Pvc 17.00m-0.00m OUTER LINING - GRAVEL = Seal	Date/time: 2016-02-23 0940 Quality: 43 WLMP: 7.35m DBNS: 7.35m RWL: 18.76mAHD		1995-01-26	1987	East
81783	Not Known	0.00m-6.40m NO RETURNS 6.40m-9.50m SILT SANDY 9.50m-14.00m SAND FINE/MEDIUM 14.00m-14.90m SAND FINE/COARSE 14.90m-22.40m SAND FINE/COARSE 22.40m-23.60m SAND COARSE MINOR GRAVEL 23.60m-33.90m SAND FINE/COARSE MIN GRAVEL 33.90m-44.50m SAND FINE/MED 44.50m-47.60m SILT CLAY CALCAREOUS BANDS	0.00m-3.00m INNER LINING - CASING = Pvc 3.00m-36.00m INNER LINING - SCREEN = Pvc 36.00m-47.60m INNER LINING - CASING = Pvc		3.00m-36.00m Sand	1990-02-09	1992	North

Boreholes WMIS Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## Groundwater Boreholes

### OSAR Proposed Road Alignments - Site 26 (Section 2)

### Boreholes (Earth Resources Database)

Boreholes from the Earth Resources dataset, within the report buffer:

Bore Id	Bore Type	Company	Usage	Method	Status	Drill Date	Depth	Elevation	Accuracy (m)	Dist (m)	Direct
81737		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		02/12/1983	86.00		100	14	South
81716		Private Individual/Corporation	Domestic water supply	Hand Auger		12/06/1983	10.00		100	286	South East
81421		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		21/02/1973	51.82	21.70	100	313	North East
81437		Department of Manufacturing & Industry Development		Hand Auger	Abandoned	20/09/1985	4.00		100	313	North East
81438		Department of Manufacturing & Industry Development		Hand Auger	Abandoned	20/09/1985	2.90		100	313	North East
81750		Private Individual/Corporation	Domestic water supply	Hand Auger		04/06/1984	6.00		100	547	South East
81729		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		23/12/1982	49.38		100	686	South
81722		Private Individual/Corporation	Domestic water supply	Hand Auger		28/02/1983	9.00		100	709	South East
81755		Private Individual/Corporation	Domestic water supply	Hand Auger		01/06/1983	12.80		100	790	East
81717		Private Individual/Corporation	Domestic water supply	Hand Auger		13/08/1981	16.20		100	846	East
81419		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		27/11/1971	42.98	26.70	100	855	North
81763		Private Individual/Corporation	Domestic water supply	Percussion (cable)		12/11/1982	9.15		100	961	South East
81739		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		13/12/1983	19.51		100	1026	East
81754		Private Individual/Corporation		Percussion (cable)	Abandoned	10/05/1983	30.00		100	1088	North East
81767		Private Individual/Corporation	Domestic water supply	Percussion (cable)		01/09/1983	17.90		100	1128	South East
81761		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		31/12/1983	13.50		100	1162	South East
81733		Private Individual/Corporation		Percussion (cable)	Abandoned	20/02/1983	39.49		100	1209	North West
81725		Private Individual/Corporation		Percussion (cable)	Abandoned	28/04/1983	43.90		100	1362	North
81726		Private Individual/Corporation		Percussion (cable)	Abandoned	09/05/1983	23.80		100	1375	North
81721		Private Individual/Corporation	Stock/Poultry water supply	Percussion (cable)		05/01/1983	33.00		100	1395	North West

Bore Id	Bore Type	Company	Usage	Method	Status	Drill Date	Depth	Elevation	Accuracy (m)	Dist (m)	Direct
81736		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		10/08/1983	24.38		100	1429	South East
81732		Private Individual/Corporation	Domestic & Stock water supply	Rotary (diamond/drag bit)		12/11/1982	42.60		100	1473	East
81730		Private Individual/Corporation	Irrigation	Air Percussion/Air Rotary		22/02/1983	60.96		100	1619	North East
81753		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		01/04/1985	13.70		100	1687	North West
80524		Private Individual/Corporation		Percussion (cable)	Abandoned	29/09/1983	64.50		100	1845	North
81714		Private Individual/Corporation	Domestic water supply	Rotary (diamond/drag bit)		27/02/1983	42.67		100	1893	South East
81420		Department of Manufacturing & Industry Development	Groundwater Observation	Percussion (cable)		31/01/1973	60.96	33.67	100	1952	North

Boreholes Earth Resources Data Source: © The State of Victoria, Department of Economic Development, Jobs, Transport and Resources 2015. Creative Commons Attribution 3.0 Australia

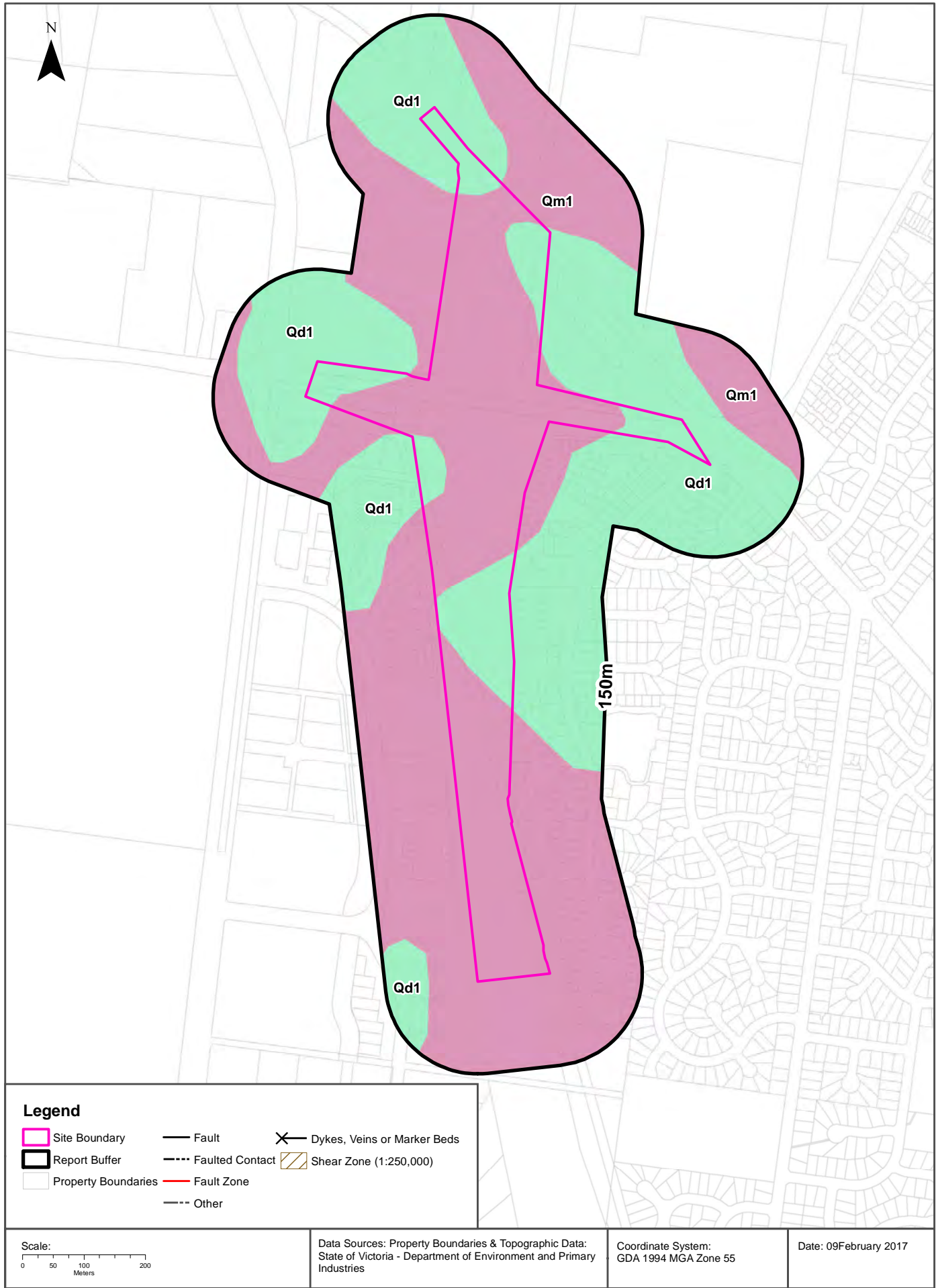
## Boreholes (Federation University)

Boreholes from the Federation University Australia dataset, within the report buffer:

Bore Id	Authority	Type	Uses	Initial TD	Log	Dist (m)	Direct
N/A	No records within buffer						

Boreholes FedUni Data Source: © Federation University Australia





# Geology

## OSAR Proposed Road Alignments - Site 26 (Section 2)

### Geological Units

What are the Geological Units onsite?

Symbol	Name	Description	Geological Age	Lithology	Dataset
Qd1	inland dune deposits (Qd1): generic	Sand, silt, clay: friable to consolidated; well sorted; includes both lunette deposits and deposits of longitudinal dunes	Quaternary to Quaternary	sand (significant); silt material (significant); clay lithology (significant)	1:50,000
Qm1	swamp and lake deposits (Qm1): generic	Grey to black carbonaceous mud, silt, clay, minor peat: generally unconsolidated; rare dolomite	Pleistocene to Holocene	mud (major proportion); silt material (significant); clay lithology (significant); peat (minor proportion)	1:50,000

What are the Geological Units within the report buffer?

Symbol	Name	Description	Geological Age	Lithology	Dataset
Qd1	inland dune deposits (Qd1): generic	Sand, silt, clay: friable to consolidated; well sorted; includes both lunette deposits and deposits of longitudinal dunes	Quaternary to Quaternary	sand (significant); silt material (significant); clay lithology (significant)	1:50,000
Qm1	swamp and lake deposits (Qm1): generic	Grey to black carbonaceous mud, silt, clay, minor peat: generally unconsolidated; rare dolomite	Pleistocene to Holocene	mud (major proportion); silt material (significant); clay lithology (significant); peat (minor proportion)	1:50,000

Geology Data Custodian: State Government Victoria - Dept of Economic Development, Jobs, Transport & Resources  
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## Geology

### OSAR Proposed Road Alignments - Site 26 (Section 2)

#### Geological Structures

What are the Geological Faults or Faulted Contacts onsite?

Map Id	Type	Name	Contact	Positional Accuracy	Dataset
No features					1:50,000

What are the Dykes, Marker Beds and Veins onsite?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:50,000

What are the Shear Zones onsite (1:250,000 scale)?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:250,000

What are the Geological Faults or Faulted Contacts within the report buffer?

Map Id	Type	Name	Contact	Positional Accuracy	Dataset
No features					1:50,000

What are the Dykes, Marker Beds and Veins within the report buffer?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:50,000

What are the Shear Zones within the report buffer (1:250,000 scale)?

Map Id	Type	Name	Description	Positional Accuracy	Dataset
No features					1:250,000

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## Coastal Acid Sulfate Soils

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Coastal Acid Sulfate Soils

What are the on-site Coastal Acid Sulfate Soil types?

Coastal Acid Sulfate Soil Types
There are no Acid Sulfate areas onsite

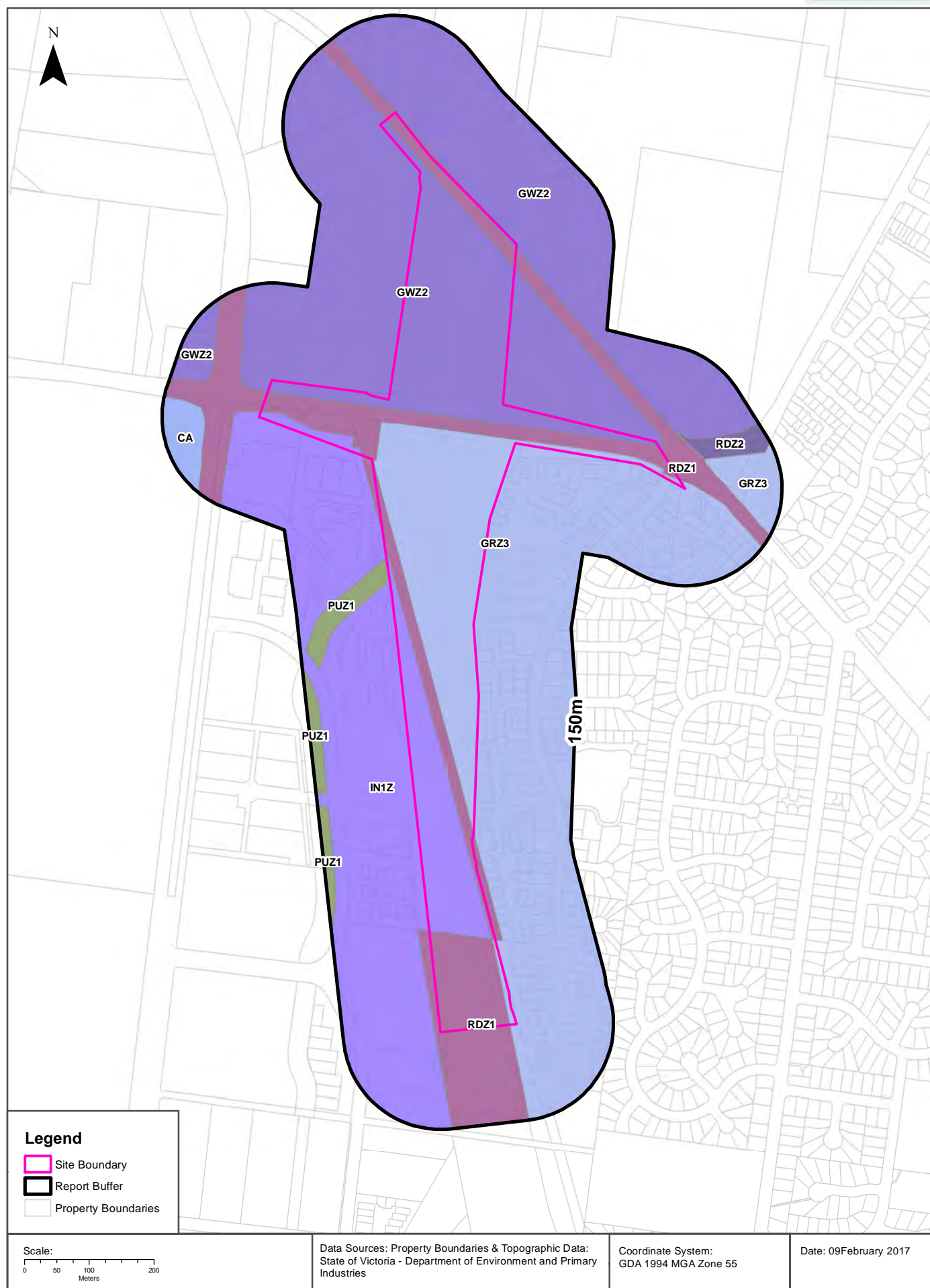
What are the Coastal Acid Sulfate Soil types within the report buffer?

Coastal Acid Sulfate Soil Types	Distance	Direction
There are no Acid Sulfate areas within the report buffer		

Coastal Acid Sulfate Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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# Planning Zones

## OSAR Proposed Road Alignments - Site 26 (Section 2)



## Planning Zones

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Planning Zones

Planning zones within the report buffer:

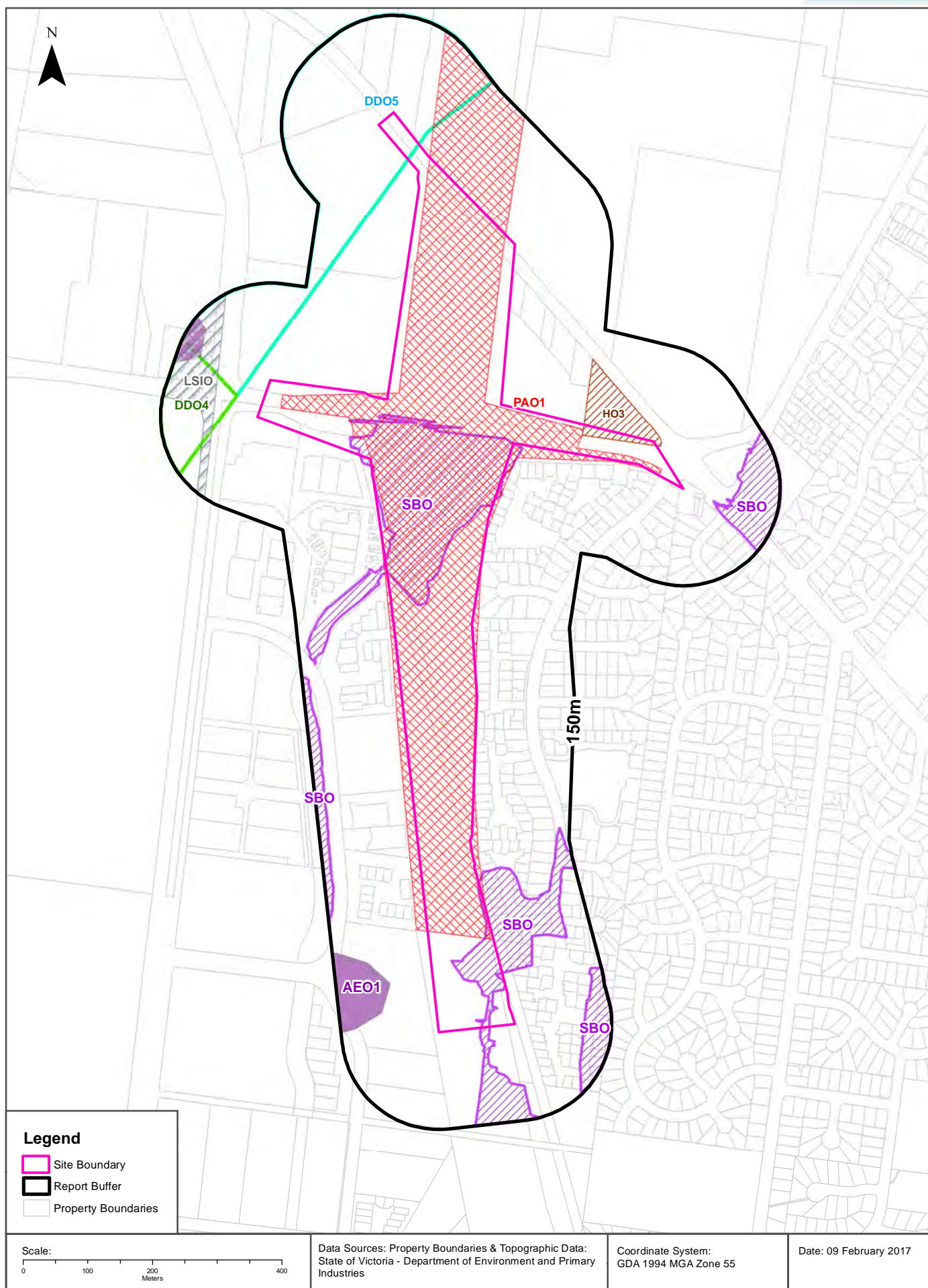
Zone Code	Description	Distance	Direction
GRZ3	GENERAL RESIDENTIAL ZONE - SCHEDULE 3	0m	Onsite
GWZ2	GREEN WEDGE ZONE - SCHEDULE 2	0m	Onsite
RDZ1	ROAD ZONE - CATEGORY 1	0m	Onsite
IN1Z	INDUSTRIAL 1 ZONE	0m	Onsite
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	3m	South West
RDZ2	ROAD ZONE - CATEGORY 2	33m	North East
GRZ3	GENERAL RESIDENTIAL ZONE - SCHEDULE 3	46m	North East
CA	COMMONWEALTH LAND NOT CONTROLLED BY PLANNING SCHEME	84m	West
GWZ2	GREEN WEDGE ZONE - SCHEDULE 2	93m	North West
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	131m	South West
PUZ1	PUBLIC USE ZONE - SERVICE AND UTILITY	134m	South

Planning Zone Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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# Planning Overlays

## OSAR Proposed Road Alignments - Site 26 (Section 2)



## Planning Overlays

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Planning Overlays

Planning overlays within the report buffer:

Zone Code	Description	Distance	Direction
PAO1	PUBLIC ACQUISITION OVERLAY 1	0m	Onsite
SBO	SPECIAL BUILDING OVERLAY	0m	Onsite
DDO5	DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 5	0m	Onsite
HO3	HERITAGE OVERLAY (HO3)	0m	Onsite
DDO4	DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 4	42m	South West
SBO	SPECIAL BUILDING OVERLAY	50m	East
AEO1	AIRPORT ENVIRONS OVERLAY (AEO1)	67m	West
LSIO	LAND SUBJECT TO INUNDATION OVERLAY	69m	North West
SBO	SPECIAL BUILDING OVERLAY	133m	South West

Planning Overlay Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## Cultural Heritage Sensitivity

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Cultural Heritage Sensitivity

Areas of Cultural Heritage Sensitivity as specified in Division 3 of Part 2 in the Aboriginal Heritage Regulations 2007, within the report buffer:

Map Id	Culturally Sensitive	Distance	Direction
N/A	No records in buffer		

Cultural Heritage Sensitivity Data Custodian: State Government Victoria - Dept of Planning and Community Development  
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## Natural Hazards

### OSAR Proposed Road Alignments - Site 26 (Section 2)

#### Bushfire Prone Areas

What are the designated bushfire prone areas within the report buffer?

Map ID	Feature	Plan No	LGA	Gazetted Date	Distance	Direction
N/A	No records within buffer					

Bushfire Prone Area Data Custodian: State Government Victoria - Dept of Transport, Planning & Local Infrastructure  
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#### Fire History

What are the fire history records of fires primarily on public land, within the report buffer?

Map Id	Fire Type	Fire Key	Season	Fire No	Fire Name	Treatment	Fire Cover	Start Date	Dist (m)	Direction
N/A	No records within buffer									

Fire History Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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#### Flood - 1 in 100 year modelled flood extent

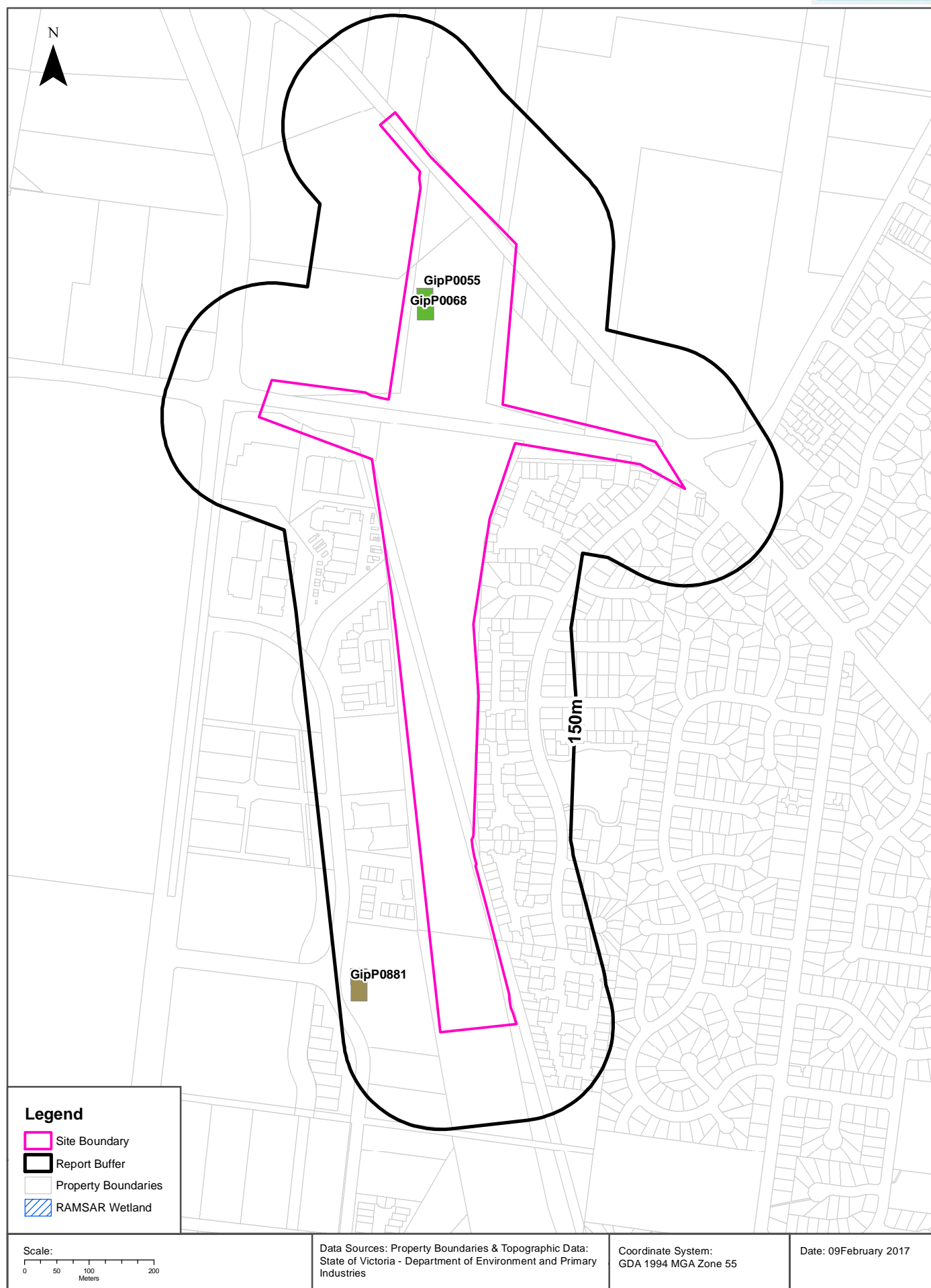
What 1 in 100 year flood extent features exist within the report buffer?

Feature	Source	Method	Scale	Modified Date	Distance	Direction
N/A	No records within buffer					

Flood Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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# Ecological Constraints - Native Vegetation 2005 & RAMSAR Wetlands

## OSAR Proposed Road Alignments - Site 26 (Section 2)



## Ecological Constraints

### OSAR Proposed Road Alignments - Site 26 (Section 2)

## Native Vegetation (Modelled 2005 Ecological Vegetation Classes)

What native vegetation exists within the report buffer?

Veg Code	EVC Name	EVCCode	Group	Subgroup	Bioregion	Conservation Status	Geographic Occurance	Distance
GipP0055	Plains Grassy Woodland	0055	Plains Woodlands or Forests	Freely-draining	Gippsland Plain	Endangered	Common	0m
GipP0068	Creekline Grassy Woodland	0068	Riverine Grassy Woodlands or Forests	Creekline and/or swampy	Gippsland Plain	Endangered	Minor	0m
GipP0881	Damp Sands Herb-rich Woodland/Heathy Woodland Mosaic	0881	Herb-rich Woodlands	Damp Sands	Gippsland Plain	Vulnerable	not applicable	102m

Native Vegetation Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## RAMSAR Wetlands

What RAMSAR wetland areas exist within the report buffer?

Map ID	Site Name	Lake Name	Distance	Direction
N/A	No records within buffer			

RAMSAR Wetland Area Data Custodian: State Government Victoria - Dept of Environment, Land, Water & Planning  
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## **Environmental Risk and Planning Report**

**OSAR Proposed Road Alignments - Site 26 (Section 3)**

**Report Buffer: 150m**

**Report Date: 09 Feb 2017 10:20:11**

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