

# Mamre Road Upgrade Stage 1 – Concept Design and REF

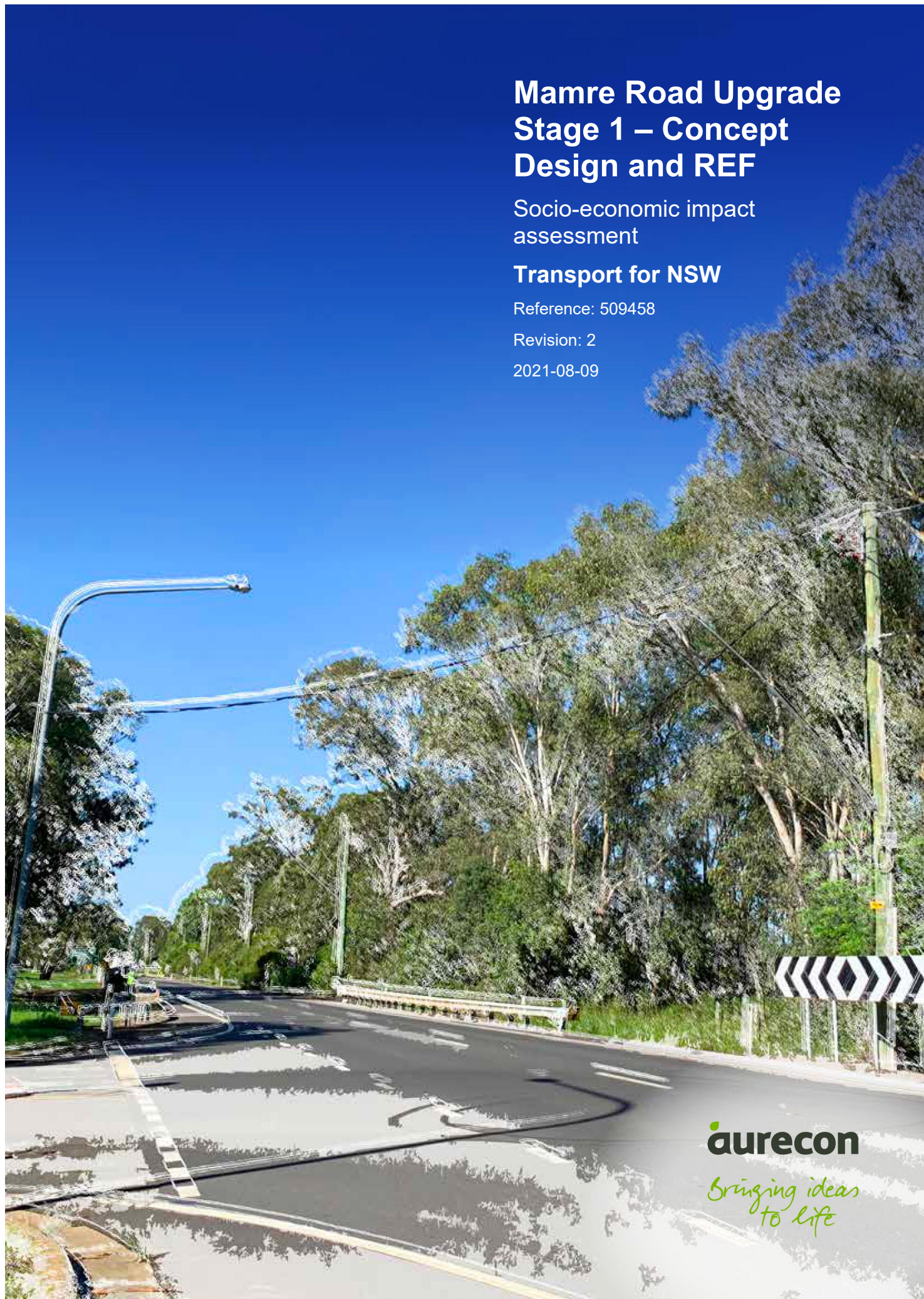
Socio-economic impact  
assessment

**Transport for NSW**

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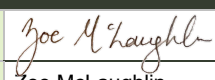
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# Executive summary

## Proposal overview and background

Transport for NSW (TfNSW) propose to upgrade about 3.8 kilometres of Mamre Road between the M4 Motorway, St Clair and Erskine Park Road, Erskine Park to a four-lane divided road (the proposal). The proposal forms Stage 1 of the proposed broader Mamre Road Upgrade project between Kerrs Road, Mount Vernon and the M4 Motorway, St Clair. The proposal is required to support future economic and residential growth in Western Sydney by increasing the capacity of Mamre Road and improving road safety and movement between the M4 Motorway and Erskine Park Road.

## Existing environment

This assessment has considered a direct study area, a socio-economic study area and a broader study area, which are focused around Mamre Road. The direct study area includes Mamre Road and the areas surrounding the road corridor. This also includes the properties that border Mamre Road to the east and the west. In this assessment, the direct study area focuses on residents, stakeholders and facilities closest to the proposal. The socio-economic study area is the area within 400 metres of the proposal and considers those within general walking distance and access to the proposal. The broader study area used in this assessment includes the statistical areas (Australian Bureau of Statistics (ABS) Statistical Area 2 (SA2)) of Mulgoa - Luddenham - Orchard Hills, St Marys - North St Marys, St Clair, Erskine Park and Horsley Park - Kemps Creek. The broader study area contributes to developing the context of the existing environment and has been compared against the Penrith LGA and Greater Sydney.

The broader study area has a young population, is highly mobile and travel relatively far to reach places of employment and social infrastructure, when compared with Greater Sydney. There is a lack of public transport within the direct study area and socio-economic study area, with residents reliant on private vehicles for travel and public transport facilities in the broader study area. There is a mix of rural residential and urban residential areas across the broader study area. Population and housing growth in the Penrith LGA are expected to increase substantially over the next 20 years, which is likely to be attributed to the development in Western Sydney and the changing nature of the Penrith LGA in response to development.

The existing environment is summarised as follows:

- in 2016, there were 56,370 people living in the broader study area, which accounted for 28.7 per cent of the Penrith LGA population. There is a high proportion of young people in the broader study area (20.5 per cent) and Penrith LGA (21.1 per cent) aged 14 years or younger, compared to Greater Sydney (18.7 per cent). In 2016, 11.3 per cent of the broader study area population were 65 years or older, which was slightly lower than the Penrith LGA and Greater Sydney.
- There is a high Aboriginal and Torres Strait Islander population in the broader study area when compared with Greater Sydney, 3.2 per cent compared with 1.5 per cent in Greater Sydney. This is consistent with Penrith LGA, which also has a high Aboriginal and Torres Strait Islander population (3.9 per cent).
- The population is growing, with the population of Penrith LGA expected to increase by 25 per cent between 2016 and 2041. This is consistent with the percentage of growth expected to be experienced in the Greater Sydney region, which is predicted to grow by about 34 per cent by 2041. Major growth and development is expected in the Western Sydney region with major projects occurring in the region, including the Western Sydney Airport, M12 Motorway and other state significant development. The proposal is in an area of change, with the transition of the broader study area between rural/agricultural land on the western side of the proposal to urban development on the eastern side of the proposal
- Many people who live in the broader study area are employed in construction, which is consistent with Penrith LGA. This may be associated with the current growth and development within Western Sydney, providing opportunities in the construction industry.

- Business within the broader study area mainly comprise agricultural businesses, trade and home-based businesses, large freight operators and industrial type businesses. Businesses closest to the proposal in the direct study area include the Blue Cattle Dog Hotel, KFC fast food restaurant, agricultural businesses and industrial businesses that form part of Erskine Business Park, south of the proposal.
- Most people living in the broader study area own a car. In 2016, vehicle ownership in the broader study area was between 1.5 and 3 vehicles per dwelling, with 5.3 per cent of dwellings having no motor vehicles. Greater Sydney had the lowest portion of dwellings with no vehicles at 11.1 per cent. The high vehicle ownership in the broader study area could reflect the diverse job and industry types, requiring people to travel using private motor vehicles and current limited public transport choice
- The direct study area provides access to social infrastructure facilities, those closest to the proposal being: Catholic Care Mamre House and Farm (community centre), Erskine Park Rural Fire Brigade and Old MacDonald Childcare Centre. It is likely that people within the broader study area use Mamre Road to access social infrastructure facilities in the wider area.
- There are bus stops located on Mamre Road and some cyclist shoulder markings along its extent. The footpaths on Mamre Road are limited.

## Impact assessment

This socio-economic impact assessment is in accordance with the 'moderate' level of assessment, in the *Environmental Impact Assessment Practice Note – Socio-economic Assessment* (EIA-N05) (TfNSW, 2020). The proposal is expected to have some adverse impacts during the construction phase, including:

- Property and land use impacts, such as property acquisition, leasing and adjustments to 41 lots, which includes residences, businesses, social infrastructure and spaces surrounding the existing road footprint. As the proposal would only require small acquisitions along the widened road, acquisition is not expected to have a substantial impact on residences or the existing use of other properties for community activities, agriculture and business.
- Changes in access and connectivity for all road users as a result of:
  - delays from construction traffic and temporary alternate traffic arrangements
  - changes in traffic movements at the intersections of Banks Drive, Solander Drive and McIntyre Avenue due to construction staging
  - temporary relocation of bus stops during construction, which may affect accessibility
  - removal of some parking spaces near intersections at Solander Drive and McIntyre Avenue, however due to the availability of nearby parking, impacts are expected to be minor
- Impacts to social infrastructure due to changes in the noise, air quality and visual environment, which may be experienced at Mamre House, Feathered Friends Wildlife Sanctuary, Erskine Park Rural Fire Brigade and Old MacDonald Childcare Centre
- Impacts to community values and amenity due to noise, visual and air quality impacts for residents. The highest impacts would be generally limited to the front-row residential receivers to the east of Mamre Road. Residential receivers which are further back or shielded from view would be impacted to a lesser degree. Work outside standard construction hours could result in potential sleep disturbance or discomfort for receivers.
- Potential cumulative impacts related to amenity and traffic could occur as a result of construction work being located near the Western Sydney Airport, M12 Motorway, Upper South Creek Advanced Water Recycling Centre and other surrounding development.



During operation of the proposal there would be some beneficial and adverse socio-economic impacts, including:

- Changes in access which could alter the vehicle movements and routes of residents, social infrastructure facilities, and businesses. In particular, the left-in left-out intersection arrangements at McIntyre Avenue and Mandalong Close would result in some impacts to people wanting access to these streets and may take some time for people to adjust to the changes.
- Improvements to safety on Mamre Road for all road users, including through provision of the new shared user path, which would improve the liveability of the direct study area and socio-economic study area. This may encourage more people to use Mamre Road and provide better active transport opportunities.
- Benefits to all road users including commercial operations and businesses within and travelling through the direct study area through increased road capacity and improved travel times along Mamre Road and at intersections
- Improved movement and travel times to some social infrastructure facilities including Erskine Park Rural Fire Brigade and Mamre House. The proposal would also improve accessibility to other social infrastructure facilities in the broader study area, including those in St Clair, Erskine Park, as well as those on Bakers Lane in Kemps Creek and along Luddenham Road. This would have positive liveability impacts on the socio-economic study area, due to the safer and more efficient environment.
- Noise impacts during operation of the proposal, which would be experienced by Old MacDonald Childcare Centre, Banks Public School and Gumbirra Preschool
- Visual changes may be experienced by staff, parents and students of the Old MacDonald Childcare Centre and people visiting Mamre House due to the increase in prominence of road infrastructure. However, urban design features would have a positive impact on the visual amenity of the socio-economic study area, as well as the wellbeing of the community through increased opportunities for active transport use.
- Adverse impacts to community values and amenity (including noise and visual changes) by bringing the road footprint closer to properties on the western and eastern side of Mamre Road. This includes properties closest to intersection works at Banks Drive, including the KFC fast food restaurant and Blue Cattle Dog Hotel
- Visual impacts to surrounding receivers from vegetation removal, which may impact the liveability of the direct study area and some of the socio-economic study area. As the proposal is located in an area that is subject to change and development in Western Sydney, maintaining vegetation would be valued by the community.

## Mitigation measures

Mitigation measures are included in this report to manage and avoid potential socio-economic impacts during construction and operation. Consultation with the community, in particular affected property owners and sensitive receivers would be required during all stages of the proposal. Mitigation measures been provided in Section 8 of this report.

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# 1 Introduction

## 1.1 Proposal overview

Transport for NSW (TfNSW) propose to upgrade about 3.8 kilometres of Mamre Road between the M4 Motorway, St Clair and Erskine Park Road, Erskine Park to a four-lane divided road (the proposal). The proposal is located within the City of Penrith local government area (LGA) in Sydney, New South Wales (NSW). The proposal forms Stage 1 of the larger Mamre Road Upgrade Project, which is proposed to be delivered by Transport for NSW in two stages. Overall, the Mamre Road Upgrade Project would involve upgrades to a 10-kilometre-long section of Mamre Road between the M4 Motorway, St Clair and Kerrs Road.

Mamre Road is a key transport corridor, which provides connections to the Western Sydney Employment Area and the proposed Western Sydney Aerotropolis. The proposal is required to support future economic and residential growth in Western Sydney by increasing the capacity of Mamre Road and improving road safety and movement between the M4 Motorway and Erskine Park Road.

Key features of the proposal would include (refer to Figure 1-1):

- an upgrade of Mamre Road to a four-lane divided road with a wide central median that would allow for widening to six lanes in the future, if required
- changes to intersections with Mamre Road including:
  - an upgrade to the existing signalised intersection at Banks Drive including a new western stub for access and a U-turn facility
  - a new signalised intersection at Solander Drive including a new western stub for access and a U-turn facility
  - a new signalised intersection at Luddenham Road with new turning lanes
  - an upgrade to the existing signalised intersection at Erskine Park Road with new turning lanes
  - modified intersection arrangements (left in, left out only) at McIntyre Avenue and Mandalong Close
- a new shared path along the eastern side of Mamre Road and provision for a future shared path on the western side
- reinstatement of bus stops near Banks Drive with provision for additional bus infrastructure in the future
- changes to property access to Mamre House, Erskine Park Rural Fire Service and other private properties
- drainage and flooding infrastructure upgrades including culvert crossings, water quality basins, grass swales and channel tail-out work
- new traffic control facilities including new traffic signals and relocation of existing electronic variable message signage
- roadside furniture and street lighting
- noise walls along the eastern side of Mamre Road at St Clair
- utility relocations
- establishment of temporary ancillary facilities to support construction including compound sites, stockpile and laydown locations, temporary access tracks, temporary waterway crossings and concrete batching plants.

Construction of the proposal is expected to start in 2022 and be completed in late 2025, subject to approvals, funding and weather. Construction of the proposal is planned to be carried out in two stages: early work and main construction work. Early work would involve utility relocations, site establishment activities, property adjustments and other low impact work required to facilitate construction.

## 1.2 Purpose of report

This report assesses the potential socio-economic impacts of the proposal. It will inform the Review of Environmental Factors (REF) currently being prepared under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This socio-economic impact assessment includes the following scope of works:

- Support the planning and design activities of the proposal including identifying environmental risks, constraints and areas of sensitivity.
- Investigate and discuss impacts as a result of the proposal through assessment and analysis of the existing environment.
- Make recommendations for the avoidance or minimisation of potential impacts in accordance with the relevant environmental assessment requirements of Division 5.1 of the EP&A Act.

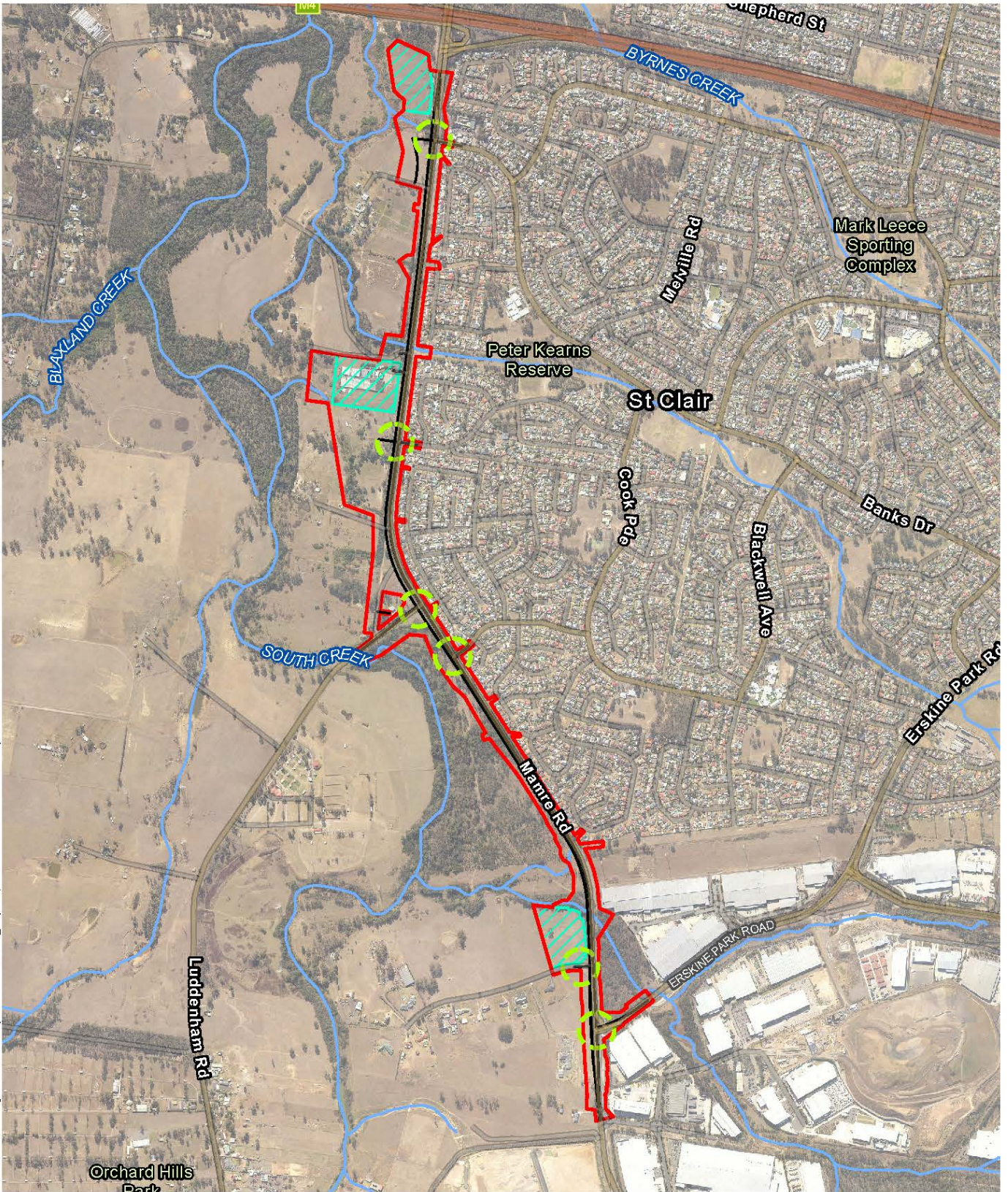
## 1.3 Report structure

The structure of this report is consistent with a 'moderate' level assessment as specified by TfNSW's EIA-N05 Environmental Impact Assessment Practice Note – Socio-economic Assessment (TfNSW, 2020).

The report is structured as follows.

- Section 1 – introduction outlining the proposal background and purpose of the report.
- Section 2 – proposal description outlining the overall proposal objectives and construction outline.
- Section 3 – methodology identifying the study area, assessment methodology and data sources.
- Section 4 – relevant policy context and planning strategies for the proposal
- Section 5 – community engagement undertaken for the proposal to date.
- Section 6 – description of the existing socio-economic environment including a profile of demographic characteristics, community infrastructure, key industries and businesses and recreational areas.
- Section 7 – potential impacts from the early works, construction and operation of the proposal.
- Section 8 – safeguards and management measures to mitigate impacts during construction and operation of the proposal
- Section 9 – conclusion.



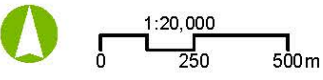


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- Waterways
- Proposed design's centerline
- - - Proposed changes to existing intersections
- ▨ Compound Sites
- ▭ REF proposal area



Source: Aurecon, Spatial Services, Nearmap, Esri



Date: 31/05/2021 Version: 2  
 Projection: GDA2020 MGA Zone 56

Mamre Road Upgrade Stage 1  
 Figure 1-1: The proposal



## 2 Proposal description

### 2.1 The proposal

Key features of the proposal are described in more detail in Chapter 3 of the Project REF and are shown in Figure 2-1 to Figure 2-4.

### 2.2 Proposal objectives

The objectives of the proposal are to:

- Improve road safety in line with the *NSW Road Safety Strategy 2012-2021 Safe System Directions and Safer Roads Key Focus*.
- Improve movement and travel times between the M4 Motorway and Erskine Park Road for general traffic, freight and bus services operating along the corridor
- Support economic growth and productivity by providing increased road capacity for the projected traffic volumes on Mamre Road
- Improve quality of service, sustainability and liveability by providing facilities for walking, cycling and future public transport needs and improving the urban design of the road corridor
- Maintain a safe and efficient environment for all road users

### 2.3 Construction

#### 2.3.1 Construction activities

The proposal would be constructed in stages to maintain the operation of Mamre Road and minimise traffic impacts. Staging for the proposal would include:

- Early work – utility relocations, preparation and site establishment activities. These activities would be required to be completed prior to the start of the main construction activities
- Main construction work, which comprises:
  - Stage 1 – during this stage, Mamre Road would remain in its existing arrangement and the proposed northbound carriageway would be constructed offline behind safety barriers
  - Stage 2 - during this stage, Mamre Road would operate in a temporary contraflow arrangement using the new northbound carriageway (constructed in Stage 1), and the new proposed southbound carriageway would be constructed
  - Stage 3 - during this stage, Mamre Road would be configured to one lane in each direction using the new northbound and southbound carriageways to allow incomplete sections of the proposal to be finished.

An indicative list of proposed construction activities is provided in the Project REF.

#### 2.3.2 Construction hours and duration

Construction of the proposal is expected to start in 2022 and be completed in late 2025.

The majority of construction would be undertaken during standard construction hours, which are:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm
- Sunday and public holidays: No work.

It is expected that some work would be required outside of standard hours to minimise traffic impacts. Work activities that are required to be undertaken outside standard hours relate to construction of the new intersections and work required to facilitate construction, such as installation of temporary concrete traffic safety barriers and delivery of oversized materials or equipment. These activities are described in detail in the Project REF. are summarised in the Project REF.

In addition, during the development of the Project REF and this report, the *Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Work Days No. 2) Order 2020* is in place under section 10.17 of the EP&A Act to facilitate social distancing by spreading infrastructure construction work over more days in a week. This Ministerial Order came into effect in December 2020 and allows development for public infrastructure projects to be carried out on Saturdays, Sundays and public holidays, providing the proposed work:

- is limited to the standard working hours for weekdays (i.e. 7.00 am to 6.00 pm)
- does not involve high noise generating work such as rock breaking, rock hammering, sheet piling, pile driving or similar activities
- takes all feasible and reasonable measures to minimise noise.

The application of the *COVID-19 Development Construction Work Days No. 2 Order* would be reviewed prior to construction to confirm that it is still applicable.

All construction would be undertaken in accordance with the *Construction Noise and Vibration Guidelines* (Roads and Maritime Services, 2016), the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009) and the *Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Work Days No. 2) Order 2020*. Consultation will be undertaken prior to the commencement of construction to notify potentially impacted residents and stakeholders of construction periods.

### 2.3.3 Proposed ancillary facilities

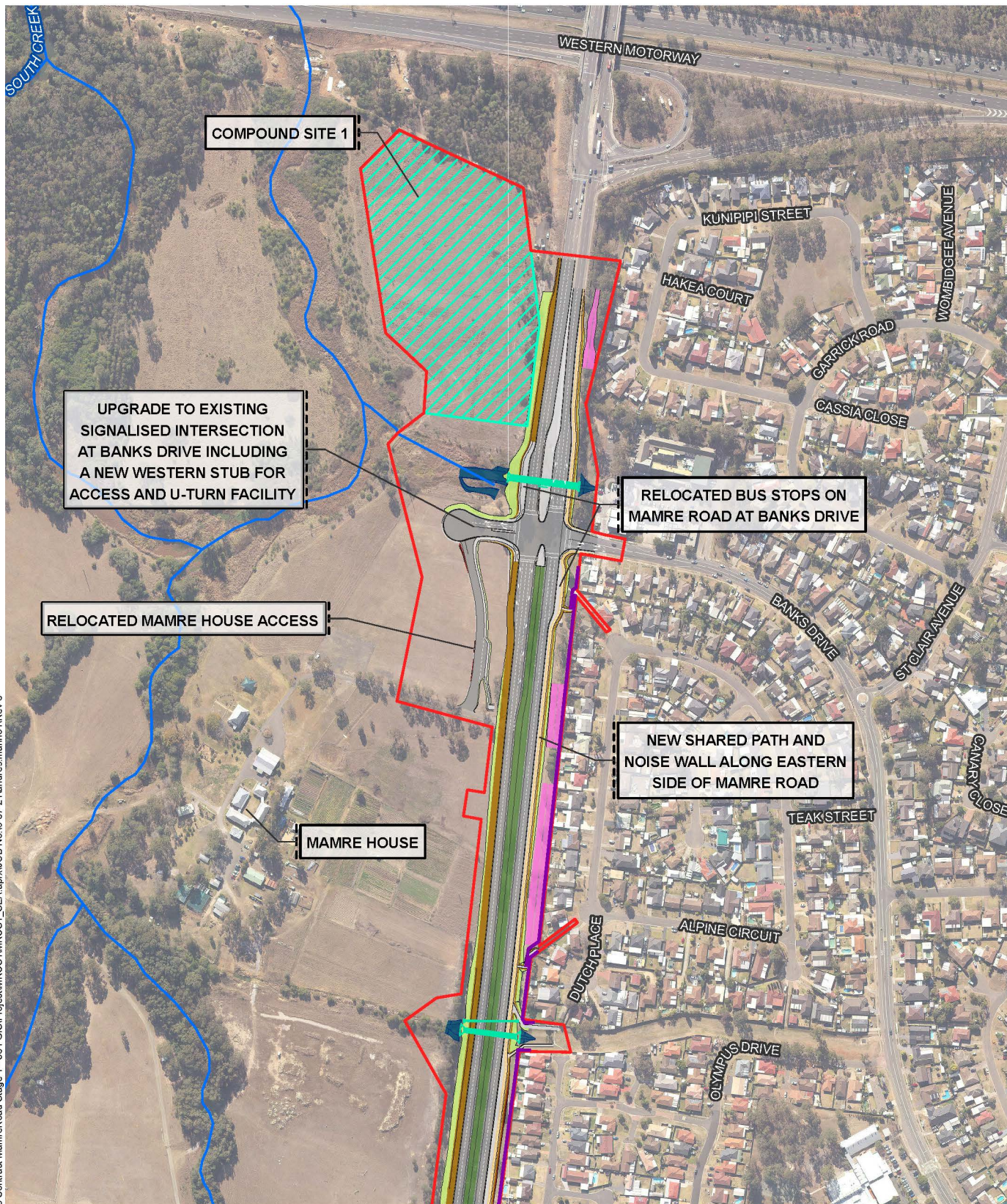
There are three proposed ancillary facilities that are being considered for the proposal. Details of these sites are summarised in Table 2-1 and their locations are shown in Figure 2-5.

**Table 2-1 Proposed ancillary facilities**

	Site 1	Site 2	Site 3
Lot / DP	Lot 1 DP849524, Lot 1 DP530579 and Lot 1 DP849524	Lot 1 DP580390	Lot 201 DP1013539
Location	The northern end of the direct study area near the intersection of the M4 Motorway and Mamre Road	100 metres north of the Solander Drive	Cleared grassland north of Mandalong Close
Access	Accessed from Mamre Road.	Accessed from Mamre Road.	Accessed from Mandalong Close
Proposed use	Northern site compound for workers, car parking and material storage	Main site compound for workers, car parking, bulk material storage and concrete batching.	Site compound, car parking for workers and stockpile areas.

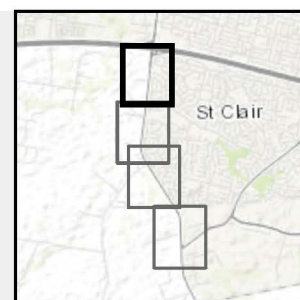
The ancillary facilities would be securely fenced with temporary fencing. Signage would be erected advising the general public of access restrictions. Upon completion of the construction works, temporary ancillary facilities, construction areas and stockpiles would be removed, the sites cleared of all rubbish and materials and rehabilitated in consultation with landowners.



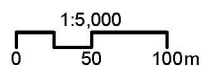


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- |                       |                  |        |
|-----------------------|------------------|--------|
| Waterways             | Basin            | Median |
| Indicative noise wall | Shared user path | Road   |
| Culverts              | Channel work     | Swale  |
| REF proposal area     | Concrete         | Cut    |
| Compound site options | Fill             | Verge  |



Source: Aurecon, Spatial Services, Nearmap, Esri



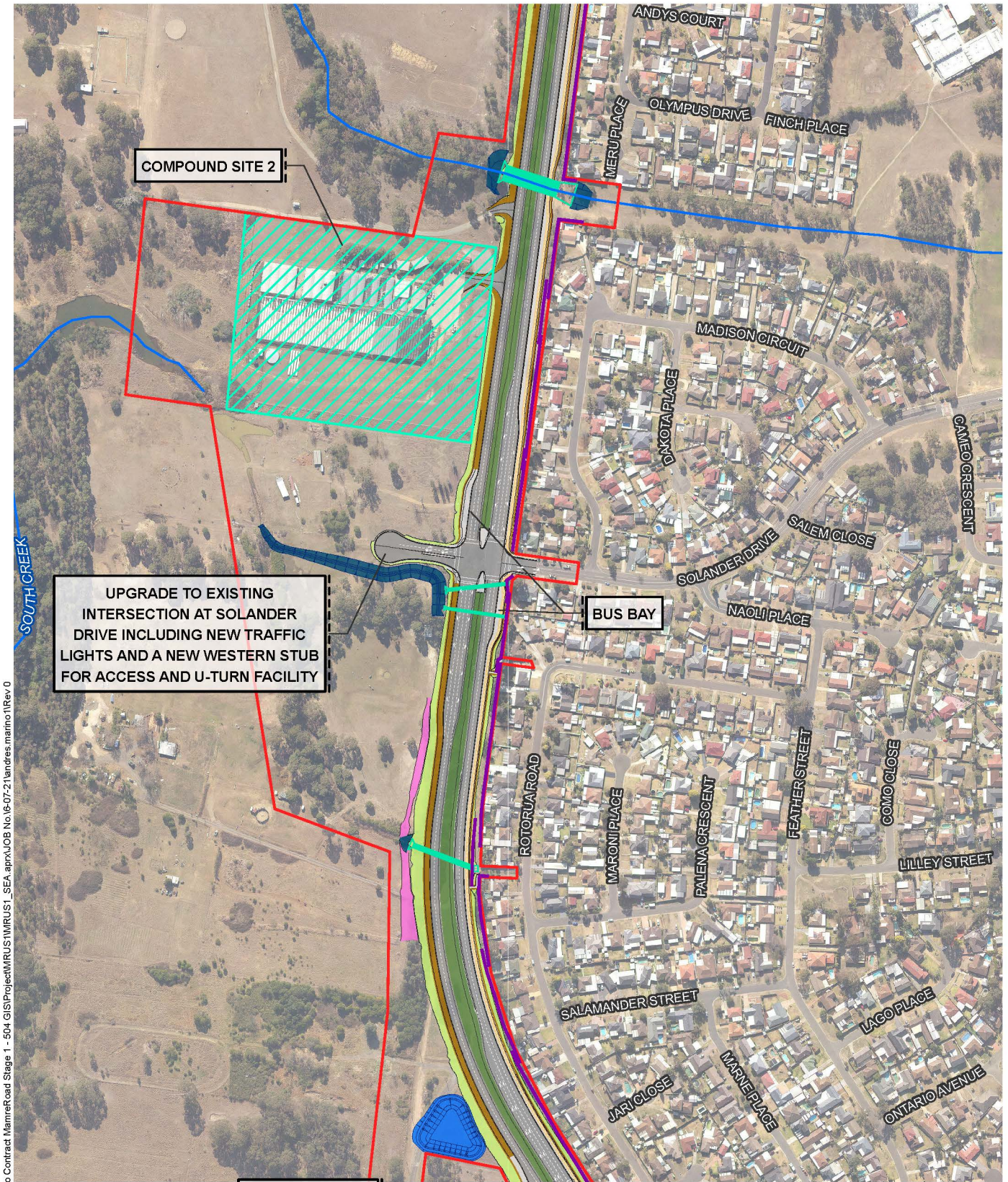
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### Mamre Road Upgrade Stage 1

Figure 2-1: Key features of the proposal





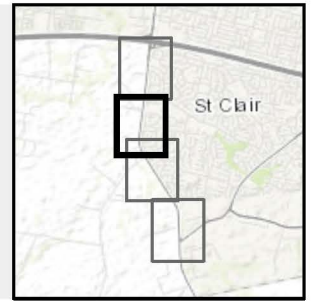
**UPGRADE TO EXISTING INTERSECTION AT SOLANDER DRIVE INCLUDING NEW TRAFFIC LIGHTS AND A NEW WESTERN STUB FOR ACCESS AND U-TURN FACILITY**

**COMPOUND SITE 2**

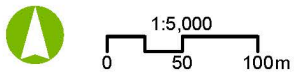
**BUS BAY**

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|-----------------------|------------------|--------|
| Waterways             | Basin            | Median |
| Indicative noise wall | Shared user path | Road   |
| Culverts              | Channel work     | Swale  |
| REF proposal area     | Concrete         | Cut    |
| Compound site options | Fill             | Verge  |



Source: Aurecon, Spatial Services, Nearmap, Esri

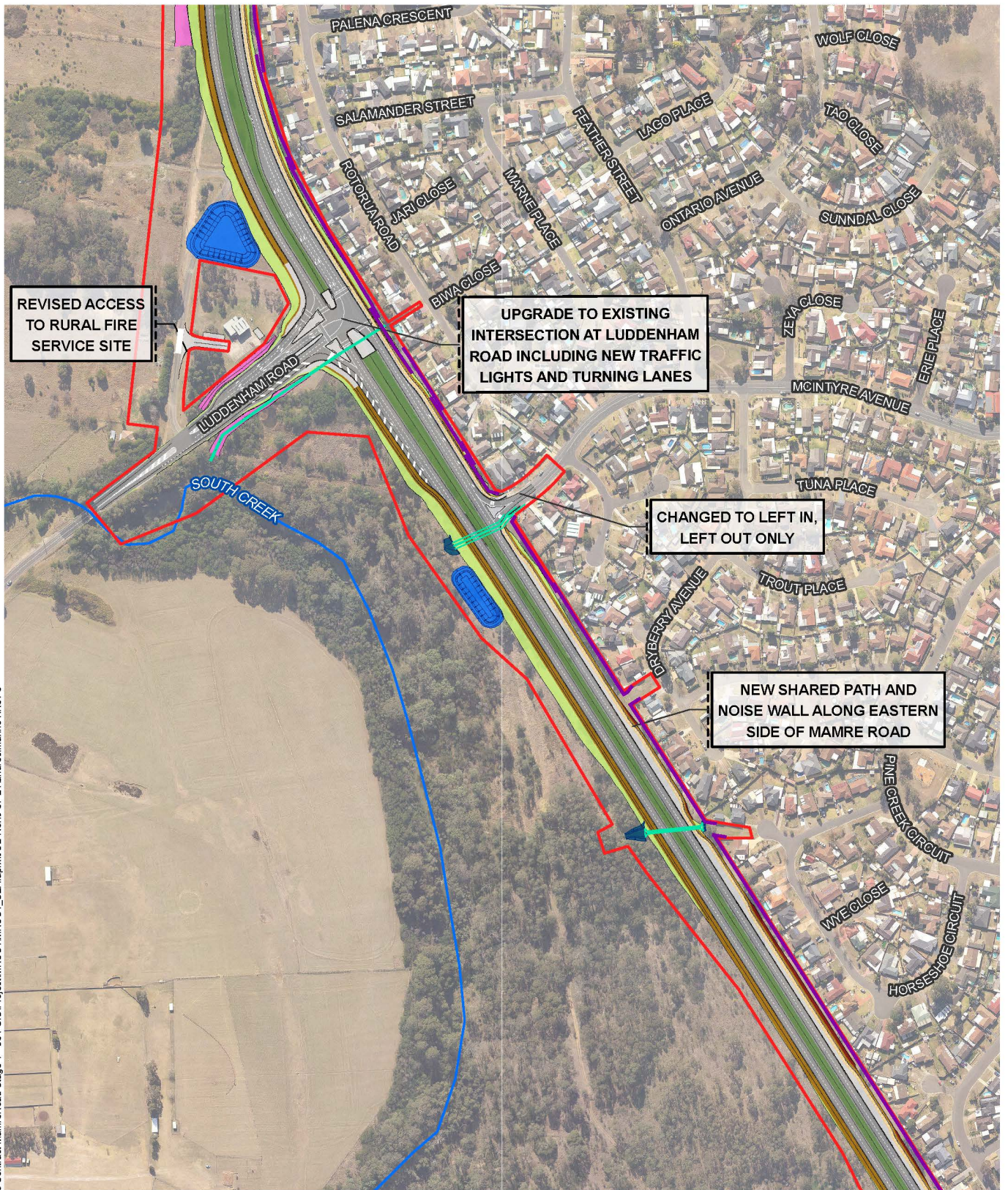


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 Projection: GDA2020 MGA Zone 56

**Mamre Road Upgrade Stage 1**

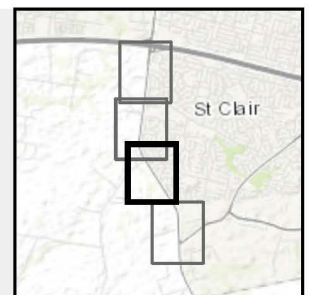
**Figure 2-2: Key features of the proposal**



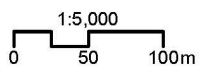


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|-----------------------|------------------|--------|
| Waterways             | Basin            | Median |
| Indicative noise wall | Shared user path | Road   |
| Culverts              | Channel work     | Swale  |
| REF proposal area     | Concrete         | Cut    |
| Compound site options | Fill             | Verge  |



Source: Aurecon, Spatial Services, Nearmap, Esri



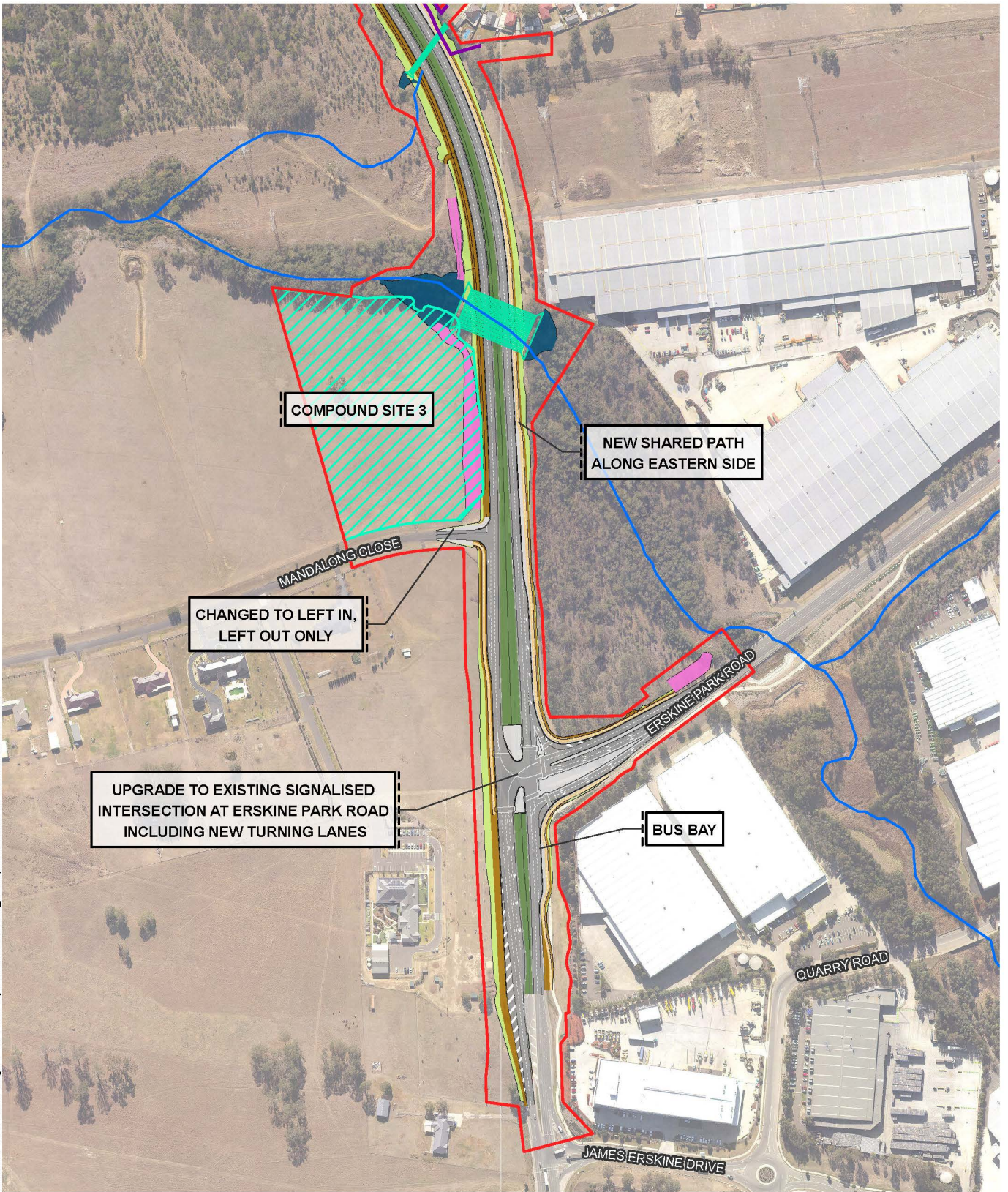
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Projection: GDA2020 MGA Zone 56

### Mamre Road Upgrade Stage 1

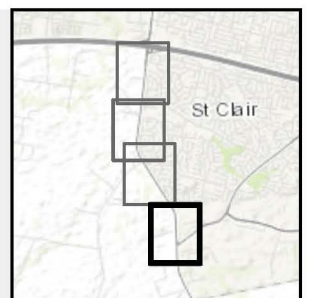
Figure 2-3: Key features of the proposal



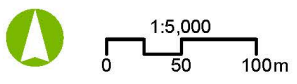


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|-----------------------|------------------|--------|
| Waterways             | Basin            | Median |
| Indicative noise wall | Shared user path | Road   |
| Culverts              | Channel work     | Swale  |
| REF proposal area     | Concrete         | Cut    |
| Compound site options | Fill             | Verge  |



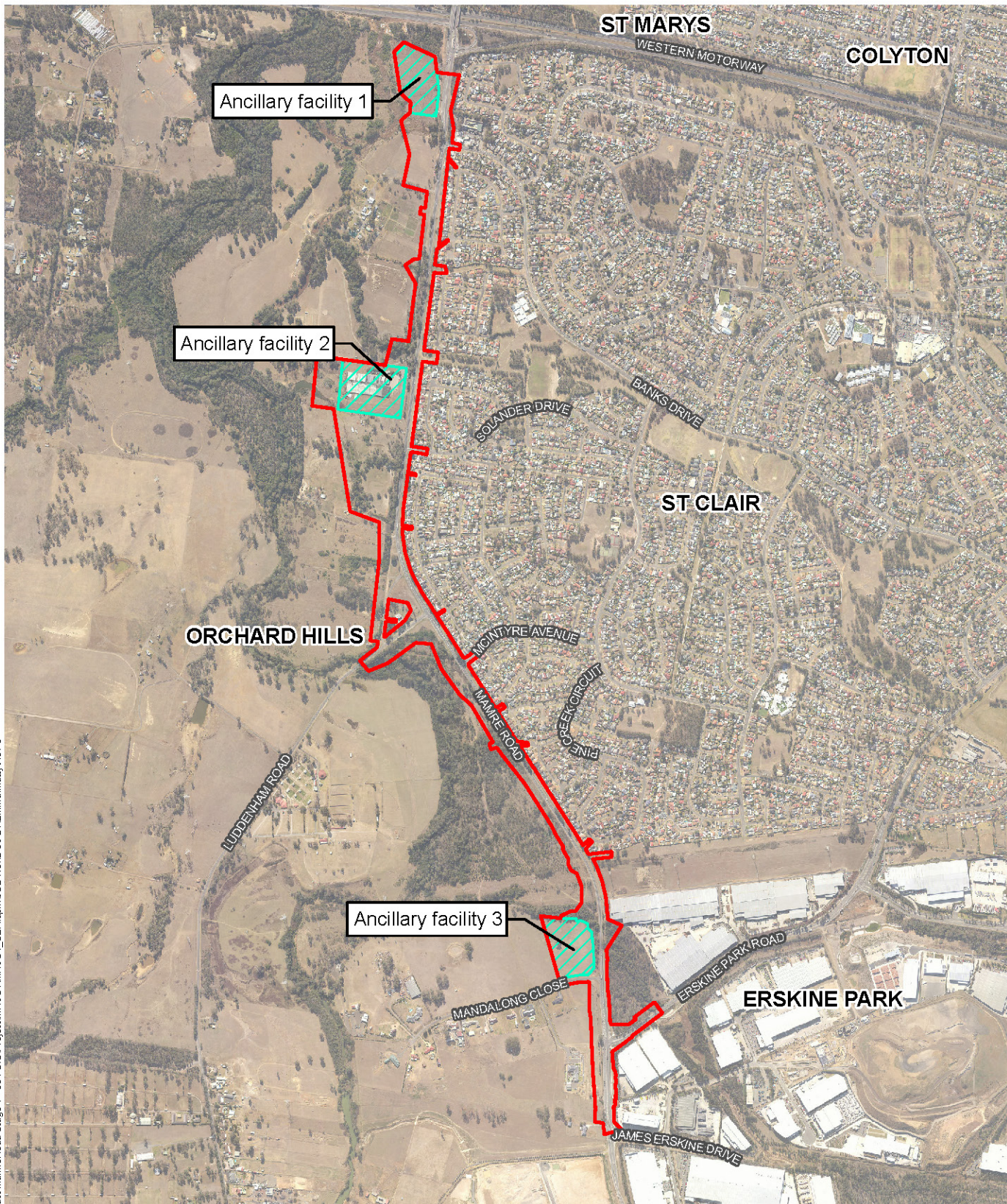
Source: Aurecon, Spatial Services, Nearmap, Esri



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 Projection: GDA2020 MGA Zone 56

Mamre Road Upgrade Stage 1  
 Figure 2-4: Key features of the proposal



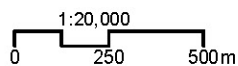


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- REF proposal area
- Proposed ancillary facilities



Source: Aurecon, Spatial Services, Nearmap, Esri



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 Projection: GDA2020 MGA Zone 56

Mamre Road Upgrade Stage 1

Figure 2-5: Proposed ancillary facility locations



# 3 Methodology

## 3.1 Assessment methodology

This socio-economic impact assessment is in accordance with the 'moderate' level of assessment, in the *Environmental Impact Assessment Practice Note – Socio-economic Assessment (EIA-N05)* (TfNSW, 2020a). The moderate level of assessment is used as it reflects the scale and magnitude of potential impacts to the socio-economic environment. The assessment includes:

### Review of statutory planning and legislation:

This assessment includes the review of statutory planning and legislative requirements, including a review of existing State and local government strategies relevant to the social and economic environment of the study area such as the *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (WSEA SEPP).

### Description of the existing socio-economic environment

The description of the existing socio-economic environment of the three study areas (detailed in Section 3.2) to establish the baseline includes:

- Review of local policies and strategies, including the *Penrith Community Plan* (Penrith City Council, 2017) and *Draft Mamre Road Precinct Development Control Plan* (Department of Planning, Industry and Environment (DPIE) 2020)
- Analysis of key population and demographic indicators, including data from the 2016 Australian Bureau of Statistics (ABS) Census of Population and Housing
- Analysis of existing data and information on local business and industry, employment and income, and dwelling characteristics
- Review of existing social infrastructure and community features near to the proposal, including recreation uses, educational facilities, places of worship, public transport and walking and cycling facilities.

### Impact assessment:

The impact assessment includes the identification and assessment of the potential socio-economic impacts of the early works/construction and operation on liveability, property, local amenity, social infrastructure, businesses and access. Cumulative impacts of the potential two separate construction phases (i.e. early works and main works) would be included in the impact assessment.

Assessment of liveability impacts from the proposal focusses on potential impacts to local residents in addition to the potential impacts to people using Mamre Road. The Greater Sydney Commission's *A Metropolis of Three Cities – connecting people* (2018) defines liveability as the 'quality of life that residents enjoy in their neighbourhoods'. Liveability is assessed in this report by exploring current and future housing, infrastructure and the availability of facilities and services across the socio-economic study area.

Understanding community demographics, behaviours, accessibility and surroundings provides insight into the social profile of a community to assess how impacts can specifically relate to residents, businesses, visitors and stakeholders. Community values, physical and mental wellbeing and way of life are also fundamental to what forms the liveability of an area.

The impact assessment follows the methodology in the *Environmental Impact Assessment Practice Note – Socio-economic assessment (EIA-N05)* (TfNSW, 2020). This involves:

- Identification and analysis of likely changes to existing socioeconomic conditions of the direct study area, socio-economic study area and broader study area during construction and operation.
- Determination of the significance of likely impacts, based on the sensitivity and magnitude of the impacts.

- Sensitivity refers to the qualities of the receptor which influence its vulnerability to change and capacity to adapt.
- Magnitude refers to the scale, duration, intensity and scope of the proposal including how it will be constructed and operated.

This assessment applies the impact grading matrix presented in the Environmental Impact Assessment Practice Note – Socio-economic assessment (EIA-N05) to assess the level of significance for potential negative impacts only (Table 3-1).

**Table 3-1 Grading matrix to assess the level of significance**

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High	High-moderate	Moderate	Negligible
	Moderate	High-moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Sensitivity ranges from negligible to high. If impacts to sensitivity are considered negligible, this means that no vulnerability is expected and/or receptors are likely to be able to absorb or adapt to change. High sensitivity is when there is the potential for multiple vulnerabilities to occur and/or receptors would have very little capacity to absorb or adapt to change.

The levels of magnitude also range from negligible to high. Negligible can be classified as having no distinct positive or negative changes caused by the impact (i.e. is similar to what is currently experienced at the baseline). High magnitude is considered to be a change that dominates over existing baseline conditions. The change is widespread or persists over many years or is effectively permanent.

### Management measures

This assessment includes measures to manage or mitigate potential impacts on the socio-economic environment and maximise potential benefits of the proposal.

## 3.2 Study area

### 3.2.1 Context

The proposal is in Western Sydney, NSW. The proposal traverses the suburbs of St Clair, Orchard Hills and Erskine Park in the Penrith LGA. The proposal starts just north of the intersection of Banks Drive and Mamre Road in St Clair/Orchard Hills and extends about 3.8 kilometres south along Mamre Road to Erskine Park Road in Erskine Park/Orchard Hills. It also intersects a number of local roads, many that provide access to suburbs in the surrounding area. Mamre Road forms a link between the Great Western Highway in the north to Elizabeth Drive, Badgerys Creek in the south.

### 3.2.2 Areas used in the assessment

For the purpose of this socio-economic assessment, the following areas have been selected based on the methodology provided in the *Transport for NSW EIA Practice Note – Socio-economic Assessment* (TfNSW, 2020). Each area described in Table 3-2 assesses the direct and indirect impacts of the proposal as well as

provides context about the existing environment. These areas are shown in Figure 3-1 and Figure 3-2 and are discussed in more detail in Section 7.3.

**Table 3-2 Areas used in the assessment**

Area	Definition
Direct study area	<p>The direct study area is 200 metres from the design. It has been developed using a 200-metre buffer area measured from the design (shown in black on Figure 3-1). The area used generally follows the REF proposal area used in the Project REF and shown in Figure 2-1.</p> <p>Direct impacts are assessed in this area, including amenity impacts (noise and visual impacts), property and access impacts and impacts to the surrounding community. The direct study area encompasses residents along the Mamre Road corridor, including properties that are set back from the road but may still experience direct impacts of the proposal.</p>
Socio-economic study area	<p>The socio-economic study area is 400 metres from the design.</p> <p>Indirect impacts of the proposal are considered in the socio-economic study area.</p> <p>This area is used to assess indirect impacts of the proposal (primarily impacts to access and connectivity, as well as some amenity impacts that may occur from people using the proposal but not as frequently as those within the direct study area). The study area is based on a 400-metre buffer from the design which is walking distance around the proposal. The socio-economic study area has been selected as a representation of the area surrounding the proposal.</p>
Broader study area	<p>To provide context about the liveability of the area surrounding the proposal, the socio-economic database coverage area is based on the following ABS areas:</p> <ul style="list-style-type: none"> <li>■ Statistical Area 2 <ul style="list-style-type: none"> <li>– Mulgoa - Luddenham - Orchard Hills</li> <li>– St Marys - North St Marys</li> <li>– St Clair</li> <li>– Erskine Park</li> <li>– Horsley Park - Kemps Creek.</li> </ul> </li> <li>■ In comparison with Penrith LGA and Greater Sydney.</li> </ul> <p>These areas were selected as they cover the direct and indirect study area.</p> <p>The investigation of the areas outside of the direct study area and socio-economic study area is important to understand the range of services, facilities and lifestyle of the community. Key features of the surrounding area such as train stations, shopping/town centres and places of special interest contribute to developing the context of the existing environment. By understanding the broader study area, movements through and around Mamre Road are assessed to determine the potential impacts of the proposal. This area is shown in Figure 3-2.</p>

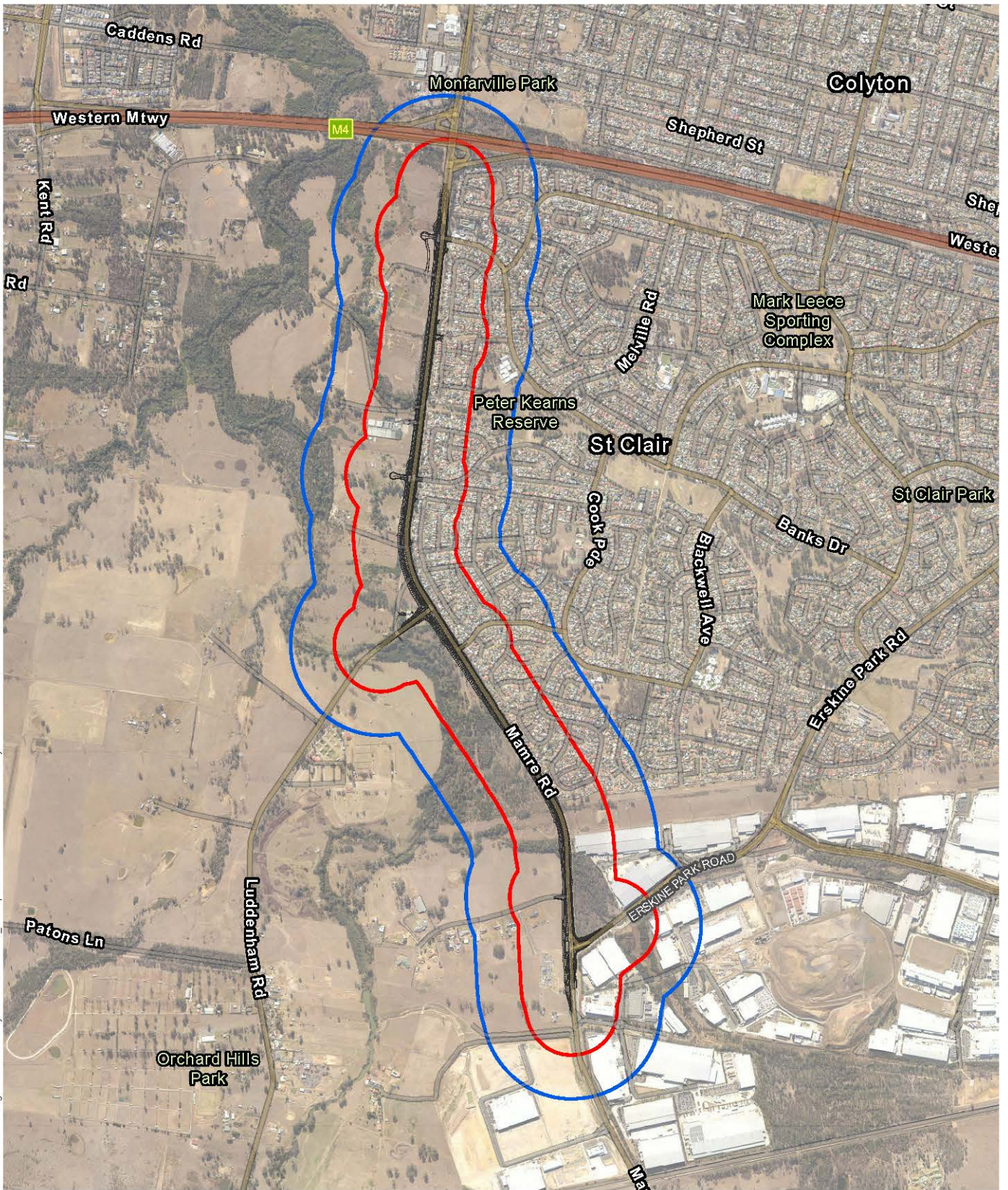


### 3.3 Data sources




Information used to inform the socio-economic assessment is from the following sources:

- Environmental Impact Assessment Practice Note on Socio-economic Assessment (EIA-N05) (TfNSW, 2020a)
- Census of Population and Housing (ABS, 2016)
- Penrith City Council reports and strategies
- NSW Government strategic planning reports and plans
- NSW Department of Planning and Environment population and dwelling projections (Department of Planning and Environment, 2016).
- Specialist reports prepared to support the REF, including:
  - Mamre Road Upgrade, Statement of Heritage Impact (Aurecon, 2021a)
  - Mamre Road Upgrade, Landscape and Visual Impact Assessment Report (SCAPE, 2021)
  - Mamre Road Upgrade, Noise and Vibration Assessment (SLR Consulting, 2021)
  - Mamre Road Upgrade, Traffic and Transport Assessment Report (SMEC, 2021)
  - Mamre Road Upgrade, Biodiversity Assessment Report (Aurecon, 2021b)



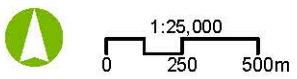


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-  Indicative road design
-  Direct study area
-  Socio-economic study area



Source: Aurecon, Spatial Services, Nearmap, Esri

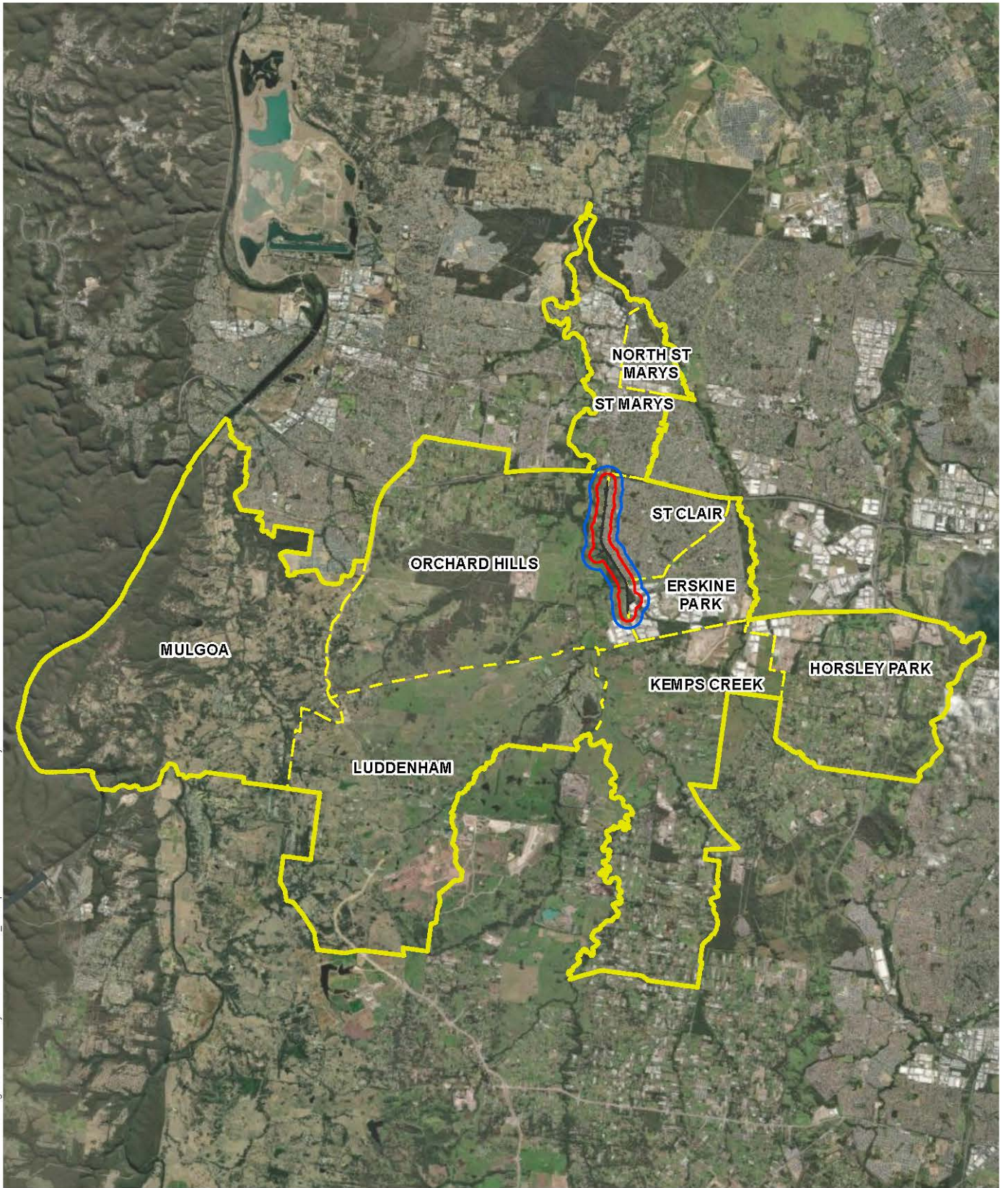


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Figure 3-1: Direct study area and socio-economic study area



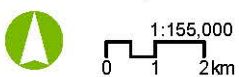


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- Indicative road design
- Direct study area
- Socio-economic study area
- Broader study area



Source: Aurecon, Spatial Services, Nearmap, Esri



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Figure 3-2: Broader study area



## 4 Policy context

### 4.1 Overview

The proposal is consistent with strategic socio-economic, land use and liveability considerations in Penrith LGA and NSW.

Road safety and liveability are key themes that are discussed in multiple strategies. The proposal aims to contribute to the liveability of the direct study area through the upgrade of Mamre Road and associated features including active and public transport provisions. The proposal would align with the themes and direction explored in NSW and local strategic planning documents with a focus on safety, efficiency and meeting the future needs of local and regional motorists.

The following section provides an overview of State and local strategic planning and key themes of relevance to this socio-economic assessment. A detailed overview of the strategic plans reviewed for this assessment is provided in Appendix A.

### 4.2 Summary of NSW strategic planning

The main themes explored in NSW planning documents that align with the socio-economic assessment for the proposal include:

- **Safety:** Road safety is a priority in NSW strategic planning, with a focus on communities and local and regional travel. Community behaviour, movements and values are discussed in NSW strategic plans at a high level. In particular, the primary objective of the *NSW Road Safety Strategy 2012-2021* is to reduce road trauma. There is also a focus on a 'safe system approach', which aligns with the proposal's objective to improve road safety. Safety is highly valued across communities, as their perceptions about safety and their views of present and future conditions can change behaviours and movements.
- **Planning for liveability:** The value of planning for the future of communities to meet population, economic and travel needs. The importance of a balanced approach to planning that would contribute to the different needs of a community and stakeholders. This includes balancing the needs of development with the needs of residents and visitors, current and future. In particular, the movement and place framework discussed in the *Future Transport Strategy 2056*, aligns with the proposal's objective to improve liveability. The provision of facilities for walking and cycling and future public transport aligns with the *NSW Premier's Priorities* for well-connected communities with quality local environments. The proposal's objective also seeks to improve liveability not only for those closest to the proposal but the broader study area, connecting to other networks. Integrated networks provide more opportunities for people, making them feel included and connected.
- **Efficiency and productivity:** Maintaining an efficient, productive and safe road network for all road users is investigated, with specific references to the growth and development of Western Sydney. The changing nature of Western Sydney is acknowledged within the *Greater Sydney Region Plan (GSRP): A Metropolis of three cities – connecting people* and the *Our Greater Sydney 2056 – Western City District Plan – connecting communities*, with a focus on accessibility, connectivity and considering all road users, being a key objective of the proposal. This includes a focus on the development of freight, active and public networks as Sydney grows and transport demand increases.

## 4.3 Summary of local strategic planning

Local strategic planning documents consist of the following key themes:

- The significance of connectedness and access: Providing a range of transport options that can be used by a range of people with varying abilities and demographic profiles is explored throughout local planning, and in particular is included as Planning Priority 10 within the Penrith City Council *Local Strategic Planning Statement – Planning for a Brighter Future*. Appreciating the diversity and respect within the Penrith community and the need to consider social inclusion in planning is part of the *Penrith City Council- Community Strategic Plan 2031*.
- Western Sydney Aerotropolis and Western Sydney Employment Area: Mamre Road is defined as one of the seven initial precincts considered in the *Western Sydney Aerotropolis Plan 2020*. In planning for the aerotropolis and employment area, liveability is explored, discussing the importance of integrating residential and community planning to create liveable areas.
- Health and wellbeing: There is a strong focus on people and making connections to places that support growth whilst also considering community needs. In particular, the Penrith City Council *Community Strategic Plan 2031* (CSP) states that travel requirements for the growing population to access employment is a concern. Congestion and limited transport options are also acknowledged. Improving travel times and road capacity would improve community wellbeing as transport opportunities for active and public transport and a more efficient road network may result in benefits for the working population of Penrith LGA.
- Community values and needs: Local planning documents provide insights into the value of places and need to protect and enhance public spaces. Community values are discussed further in Section 6.6. While the changing nature of the Western Sydney region is acknowledged, there is also a sense of community appreciation for the mix of urban, rural and natural environments that comprise the LGA.

## 5 Community engagement

As stated in the *Environmental Impact Assessment Practice Note – Socio-economic Assessment (EIA-N05)*, a moderate level of socio-economic assessment requires consultation and community engagement due to the nature and context of a project (TfNSW, 2020a). The proposed Community and Stakeholder Engagement Plan for this proposal includes public display of the REF for comment and targeted engagement with identified key stakeholders.

### 5.1 Key stakeholders

The impacts of the proposal would typically affect stakeholders in different ways. Key stakeholders to be consulted throughout the development of the proposal include:

- Penrith City Council
- local community including property owners, bus operators, businesses, and community groups, including local Aboriginal groups
- local schools and childcare centres
- emergency and health services
- State agencies including Heritage NSW
- utility providers
- internal stakeholders at TfNSW, including Transport Management Centre.

### 5.2 Summary of community consultation to date

Table 5-1 provides a record of community consultation for the proposal to date and a summary of items raised that are relevant to this socio-economic assessment.

More information about consultation undertaken for the proposal, including agency communication is provided in Chapter 5 of the Project REF.

**Table 5-1 Summary of community consultation to date and issues raised by the community with relevance to socio-economic assessment**

Activity	Summary	Key issues raised by the community with relevance to socio-economic assessment
Mamre Road upgrade Stage 1 Community Update - March 2020	The March/April 2020 update stated that funding for the proposal was granted by the NSW Government and that TfNSW invited tenders for the concept design and environmental assessment. The update also provided a background on the proposal, the next steps for the proposal and a map of other projects in the area.	Updating the community.

Activity	Summary	Key issues raised by the community with relevance to socio-economic assessment
Mamre Road upgrade - Community Consultation Report - May 2019	A Community Consultation Report was developed in May 2019 to present the feedback on the strategic design for the Mamre Road upgrade. A total of 35 submissions were received during the consultation period including submissions from Penrith City Council, WaterNSW and the NSW OEH. Issues and requirements raised by government departments are discussed in the Consultation Report.	<p>Key issues raised in submissions, relevant to socio-economic assessment, were:</p> <ul style="list-style-type: none"> <li>■ Noise from construction and operation: <ul style="list-style-type: none"> <li>– proximity to residences and night work during construction</li> <li>– noise from traffic on the widened road during operation and the need for noise walls</li> </ul> </li> <li>■ Vegetation removal, including the impact on 'Green Grid' concept located on the western side of Mamre Road</li> <li>■ Potential for increased flooding due to hard surfaces</li> <li>■ Property access and acquisition concerns: <ul style="list-style-type: none"> <li>– Property adjustments, reduced access and driveway changes</li> <li>– Request to minimise (future) property acquisition</li> <li>– Potential devaluation of properties following the upgrade</li> </ul> </li> <li>■ Design queries including the use of roundabouts as an alternative</li> <li>■ Shared pathway and bicycle paths are liked by the community</li> <li>■ Safety concerns including: <ul style="list-style-type: none"> <li>– Sealing of driveways to prevent gravel on the road surface</li> <li>– Safety of school children of Banks Public School</li> <li>– Truck safety hazards including speeding and tailgating</li> </ul> </li> <li>■ Consultation and the timing of the project</li> </ul>



Activity	Summary	Key issues raised by the community with relevance to socio-economic assessment
Mamre Road upgrade - M4 Motorway to Kerrs Road, Community Update - November 2017	<p>This update was developed to provide an update on the larger span (M4 Motorway to Kerrs Road) of the project as well as the proposal. The update announced that the strategic design for proposal was developed and that TfNSW was seeking feedback. In summary the notification provided information on:</p> <ul style="list-style-type: none"> <li>■ proposal background</li> <li>■ proposal benefits</li> <li>■ features of the preferred option</li> <li>■ other projects in the area</li> <li>■ community information session details</li> <li>■ feedback options</li> <li>■ next steps.</li> </ul> <p>The strategic design and preferred option report for the proposal was displayed from Monday 13 November to Friday 15 December 2017.</p>	Updating the community.
Mamre Road upgrade Community Update – May 2017	<p>A community update announcing the start of early planning for the proposal was released by Transport for NSW in May 2017. The update was distributed to 6,000 residents and businesses and was placed on the Roads and Maritime website. The update provided information on:</p> <ul style="list-style-type: none"> <li>■ proposal background</li> <li>■ benefits of planning</li> <li>■ current and next steps of the proposal</li> <li>■ an overview of other projects in the area</li> <li>■ feedback opportunities.</li> </ul>	Updating the community.

## 5.3 Mamre Road Upgrade Community and Stakeholder Engagement Plan

In June 2020, TfNSW prepared a Community and Stakeholder Engagement Plan (CSEP) for the proposal.

The CSEP was developed to provide a framework of how TfNSW will manage community involvement and keep key stakeholders and the community informed during the proposal. The CSEP outlines the objectives for communication and engagement, delivery methods and potential issues associated with the management of communication and engagement. The main objectives of the CSEP are:

- To keep the local community and other key stakeholders regularly informed
- To provide the community and stakeholders with regular and targeted information to build awareness about the proposal
- To ensure community and stakeholder feedback is continuously fed into communication and engagement practices and demonstrate how their feedback is incorporated into planning for the proposal
- To encourage participation from communities and other stakeholders and maintain a two-way dialogue
- Set indicators and measurable objectives where appropriate to gauge effectiveness of consultative methods and review/amend practices where appropriate.

The CSEP also provides a range of tools that can be used to keep the community informed during the proposal. These include (but is not limited to): digital REF, a project information contact number, project email address, webpage, community information sessions and displays and community updates.

## 6 Existing environment

This section outlines the characteristics of the existing socio-economic environment in the broader study area. As mentioned in Section 3.2, the broader study area is comprised of statistical areas defined by the ABS. These areas provide a quantitative analysis of people that live within and surrounding the direct study area and socio-economic study area. The ABS 2016 data used to inform the existing socio-economic environment is at Appendix B. For the purposes of this chapter, the statistical areas have been combined to characterise the broader study area. The Penrith City LGA<sup>1</sup> and Greater Sydney are used as a comparison, using information from the ABS 2016 Census.

### 6.1 Summary of the existing environment

The broader study area has a young population, is highly mobile and travel relatively far to reach places of employment and social infrastructure, when compared with Greater Sydney. There is a lack of public transport within the direct study area and socio-economic study area, with residents reliant on private vehicles for travel and public transport facilities in the broader study area. There is a mix of rural residential and urban residential areas across the broader study area. Population and housing growth in the Penrith LGA are expected to increase substantially over the next 20 years, which is likely to be attributed to the development in Western Sydney and the changing nature of the Penrith LGA in response to development. Key features of the existing environment are characterised as follows:

- At 2016 there were 56,370 people living in the broader study area, which accounted for 28.7 per cent of the Penrith LGA population. There is a high proportion of young people in the broader study area and Penrith LGA with 20.5 per cent and 21.1 per cent of people aged 14 years or younger (respectively), compared to Greater Sydney at 18.7 per cent. In 2016, 11.3 per cent of the broader study area population were 65 years or older, which was slightly lower than the Penrith LGA and Greater Sydney.
- There is a high Aboriginal and Torres Strait Islander population when compared with Greater Sydney, with the population comprising 3.2 per cent of the broader study area compared with 1.5 per cent in Greater Sydney. This is consistent with Penrith LGA, which also has a high Aboriginal and Torres Strait Islander population (3.9 per cent) when compared with Greater Sydney.
- The population is growing, with the population of Penrith LGA expected to increase by 25 per cent between 2016 and 2041. This is relatively consistent with the percentage of growth expected to be experienced in the Greater Sydney Region, which is predicted to grow by about 34 per cent by 2041. Major growth and development is expected in the Western Sydney region with major projects occurring across its extent, including the Western Sydney Airport, M12 Motorway and other state significant development. The proposal is in an area of change, with the transition of the broader study area between rural/agricultural land on the western side of the proposal to urban development on the eastern side of the proposal toward the Sydney CBD
- Many people who live in the broader study area are employed in construction, which is consistent with Penrith LGA. This may be associated with the current growth and development within Western Sydney, providing opportunities in the construction industry.
- Business within the broader study area mainly comprise agricultural businesses, trade and home-based businesses, large freight operators and industrial type businesses. Businesses closest to the proposal in the direct study area include the Blue Cattle Dog Hotel, KFC fast food restaurant, agricultural business and industrial business that form part of Erskine Business Park, south of the proposal.
- Most people living in the broader study area own a car. In 2016, vehicle ownership in the broader study area was between 1.5 and 3 vehicles per dwelling, with 5.3 per cent of dwellings having no motor vehicles. Greater Sydney had the lowest portion of dwellings with no vehicles at 11.1 per cent. The high

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<sup>1</sup> Note: the Penrith LGA has been included in the assessment for comparison purposes only and does not encompass all statistical areas included in the broader study area. Some statistical areas (as defined by the ABS) are shared with other LGAs (i.e. Kemps Creek and Horsley Park).

vehicle ownership in the broader study area could reflect the diverse job and industry types, requiring people to travel using private motor vehicles and current limited public transport choice

- The direct study area provides access to social infrastructure facilities, those closest to the proposal being, Catholic Care Mamre House and Farm (community centre), Erskine Park Rural Fire Brigade and Old MacDonald Childcare Centre. It is likely that people within the broader study area use Mamre Road to access social infrastructure facilities in the wider area, with most facilities clustered around town centres.
- There are bus stops located on Mamre Road and some cyclist shoulder markings along its extent. The footpaths on Mamre Road are limited.

## 6.2 Population and demography

### 6.2.1 Population

In 2016, the broader study area had a population of 56,370 people. Key population and demographic information is provided in Table 6-1 and is summarised below.

**Table 6-1 Population and demography in 2016**

Indicator	Broader study area		Penrith LGA		Greater Sydney	
	Number	%	Number	%	Number	%
Total persons	56,370	-	196,006	-	4,823,991	-
Proportion of people aged 14 years or younger	11,537	20.5%	41,284	21.1%	900,229	18.7%
Proportion of people aged 65 years or older	6,363	11.3%	22,911	11.7%	672,561	13.9%
Aboriginal and Torres Strait Islander population	1,793	3.2%	7,741	3.9%	70,135	1.5%
Overseas born	14,190	25.2%	42,381	21.6%	1,773,483	36.8%
Language other than English spoken at home	13,255	23.5%	33,167	16.9%	1,725,912	35.8%
People with need for assistance	2,873	5.1%	10,152	5.2%	236,139	4.9%

Following the review of ABS data, the following key trends were identified:

- There is a slightly younger population in the broader study area and Penrith LGA compared to Greater Sydney. This may reflect the current trend of families and younger people moving away from the CBD to large growth areas such as Western Sydney based on housing and living affordability. More information about future growth and development is provided in Section 8.1.
- Greater Sydney had the largest proportion of overseas born residents, compared to the broader study area and Penrith LGA. This may be attributed to historical settlement patterns over time (Profile id, 2016).
- The proportion of people who require help or assistance with self-care, body movements or communication ('Core Activity Need for Assistance'), was highest in the Penrith LGA, followed by the broader study area and Greater Sydney. A need for assistance would require increased access to health care and assistance facilities for the community.



## Socio-economic Indices for Areas (SEIFA)

The Socio-economic Index for Areas (SEIFA) is used by the ABS to measure aspects of socio-economic advantage and disadvantage across NSW. The index uses a range of variables to develop a score for each area in the index. The NSW average is 1000. Higher scores indicate greater advantage and a relative lack of disadvantage. A higher score may infer households with higher income and skilled occupations. A lower score may infer less households with low incomes and less skilled occupations.

Across the broader study area, SEIFA scores range from 876 to 1077 in 2016 (shown in Appendix B). The SEIFA scores indicate that St Marys and North St Marys SA2, the Penrith LGA and St Clair SA2 had lower than average economic and social conditions for people and households compared with the NSW average (1000). This may indicate lower average incomes or potentially a lower cost of living. In comparison, Mulgoa – Luddenham – Orchard Hills SA2, Erskine Park SA2 and Horsley Park – Kemps Creek SA2 had higher than average economic and social conditions for people and households in comparison with the NSW average.

## 6.2.2 Population projections

The population projections for the Penrith LGA and Greater Sydney are shown in Table 6-2. The population of Penrith LGA is expected to increase by 167,649 people by 2041 (ABS ASGS, 2019). This is about 25 per cent growth between 2016 and 2041. This is relatively consistent with the percentage of growth expected to be experienced in the Greater Sydney Region, which is predicted to grow by about 34 per cent by 2041.

**Table 6-2 Population projections for the Penrith LGA and Greater Sydney between 2016 and 2041**

	2016	2021	2026	2031	2036	2041
Penrith (C)	201,597	30,289	248,577	292,019	350,906	369,246
Greater Sydney Region	4,688,255	5,252,611	5,746,821	6,211,970	6,661,720	7,103,091

Source: Population, Household and Implied Dwelling Projections by Greater Sydney Region and Regional NSW (ABS ASGS 2019)

The Greater Sydney Commission also provides population projections for the various districts within Greater Sydney. Based on the population projections for Greater Sydney (provided in Appendix B), it is evident that the Western City District (where the proposal is located) is expected to experience the second highest population increase between 2016 and 2041. The population is expected to increase by 77.8 per cent, which is slightly less than the Central City District at 79.1 per cent.

## 6.2.3 Housing

Residential dwellings within the broader study area are a mix of single and double storey detached houses. On the western side of the direct study area, most of the houses are set back from the road on large properties, with some properties located closer to the road corridor. On the eastern side of the direct study area, most properties back onto Mamre Road along the corridor in St Clair.

Table 6-3 provides details about housing composition within the broader study area and Penrith LGA in comparison to Greater Sydney.

**Table 6-3 Housing and households in 2016**

Indicator	Broader study area		Penrith LGA		Greater Sydney	
	Number	%	Number	%	Number	%
Total private dwellings	18,535	-	67,638	-	1,759,927	-
Separate house	15,165	81.8%	51,865	76.7%	924,225	52.5%
Terrace/flat/other etc.	2,169	11.7%	11,547	17.1%	692,600	39.4%
Total households	17,414	-	63,667	-	1,623,872	-
Family households	14,080	80.9%	49,777	78.2%	1,195,662	73.6%

Indicator	Broader study area		Penrith LGA		Greater Sydney	
	Number	%	Number	%	Number	%
Non-family households	3,330	23.7%	13,884	21.8%	428,213	26.4%
Households with no vehicles	921	5.3%	3,869	6.1%	179,500	11.1%
Same address as 5 years ago as in 2016	31,414	59.9%	103,287	56.9%	2,402,160	53.2%

In summary:

- In 2016, separate dwellings comprised the highest proportion of dwellings in the broader study area, followed by the Penrith LGA and Greater Sydney. The lower proportion of separate dwellings in Greater Sydney can be attributed to the range of dwelling structures, particularly with more dense areas of dwellings and high density living closer to the CBD and other parts of Sydney.
- Non-family households comprise lone person households or group households. Family households can include couples, couples with children, single parent households, other family households and multi-family households (ABS, 2016a). The higher proportion of people living in family households in the broader study area compared to the Penrith LGA and Greater Sydney may be reflective of amenities and facilities that may be more attractive to families such as larger residential estates or urban centres. This may also indicate more affordable housing options or properties with more space for larger households.
- The broader study area had the highest proportion of residents with the same address as five years ago, compared to Penrith LGA and Greater Sydney. This can indicate a strong connection to place or can be associated with a high incidence of family households.

## 6.2.4 Housing projections

Housing projections for the Penrith LGA and Greater Sydney are provided in Table 6-4. The number of households in the Penrith LGA are expected to almost double by 2041, with a total percentage increase of 93.7 per cent. This is substantially high in comparison to dwelling projections in Greater Sydney which are expected to increase by 57.8 per cent. The Western Sydney Aerotropolis and other major projects in Western Sydney (discussed further in Section 8.1), are expected to bring increased employment and housing opportunities in the region.

**Table 6-4 Household dwelling projections for Penrith LGA and Greater Sydney**

	2016	2021	2026	2031	2036	2041	Total change	Total % change
Penrith LGA								
Households	69,300	80,550	88,000	104,300	126,250	134,250	64,950	93.7%
Average people per dwelling	2.87	2.82	2.78	2.75	2.73	2.70		
Greater Sydney								
Households	1,669,774	1,886,432	2,080,177	2,265,645	2,449,910	2,635,172	965,398	57.8%
Average people per dwelling	2.76	2.73	2.71	2.69	2.66	2.63		

<https://www.planning.nsw.gov.au/-/media/Files/DPE/Factsheets-and-faqs/Research-and-demography/Population-projections/2019-Penrith.pdf>

## 6.2.5 Economic profile

The top employment industries in the broader study area, Penrith LGA and Greater Sydney are provided in Table 6-5.

Table 6-5 Top industries of employment in 2016

Indicator	Broader study area		Penrith LGA		Greater Sydney	
	Number	%	No	%	No	%
Manufacturing	2,348	8.6%	7,484	7.9%	-	-
Construction	3,469	12.7%	11,045	11.6%	186,332	8.2%
Retail Trade	2,812	10.3%	10,009	10.6%	211,890	9.3%
Transport, Postal and Warehousing	2,234	8.2%	-	-	-	-
Professional, Scientific and Technical Services	-	-	-	-	-	9.8%
Education and Training	-	-	-	7.2%	182,770	8.0%
Health Care and Social Assistance	2,749	10.1%	10,386	10.9%	263,351	11.6%

Employment in construction comprised the highest proportion of the work force in the broader study area and Penrith LGA. This may be associated with the current growth and development within Western Sydney, providing more opportunities and a higher demand for construction related jobs. There was also a high portion of people employed in retail trade within the broader study area, which may be attributed to the large commercial areas within Penrith and St Marys. Additionally, residents may use public transport in Penrith and St Marys such as the train to access other parts of Sydney, including the CBD.

Within the broader study area, Penrith LGA and Greater Sydney, there were high proportions of people employed in healthcare and social assistance.

### Businesses and commercial operations

There are various businesses located within the direct study area including:

- Blue Cattle Dog Hotel, St Clair, located next to the proposal on the eastern side of Mamre Road and Banks Drive
- KFC fast food restaurant, St Clair, located next to the proposal on the north-eastern corner of Mamre Road and Banks Drive intersection
- Shell/Coles Express petrol station, St Clair, located next to the proposal on the north-eastern corner of Mamre Road and Banks Drive intersection
- Farms and agricultural businesses, located next to the proposal on the western side of Mamre Road
- Freight operators, suppliers and manufacturers, including Liebherr-Australia Pty Ltd, Erskine Park, and Bunzl Safety, Erskine Park and ACR Supply Partners, Orchard Hills, primarily located in the southern section of the proposal on the eastern side and western side of Mamre Road.

Within the socio-economic study area and broader study area there are other industrial, agricultural and home-based businesses. This includes crop and livestock agricultural farming, as well as wholesale and home business services including fruit and vegetable wholesalers, tailors, nurseries and tutoring services. In 2015/2016, the Penrith LGA had an agricultural output of \$110 million, with the largest commodity produced being eggs (about 40 per cent of outputs) (Economy id, 2016). Livestock, nurseries and vegetables also contributed substantially to the agricultural output of the Penrith City LGA over this period.

The direct study area encroaches on Erskine Business Park, which provides access and connection to other large industrial precincts in the in Horsley Park and Eastern Creek. These precincts are comprised of warehouses and office spaces, with heavy vehicle access. There are also new industrial estates being

developed further south-east and south-west in the broader study area, some which are currently listed on the NSW Major Projects Website as state significant development (see Appendix B). More information about these precincts and the importance of freight in the broader study area is provided in Section 6.5.4.

In the broader study area, there are also a range of local town centres and villages. These are comprised of local shops and shopping centres, small businesses, community services and facilities. St Marys is the largest town centre within the broader study area. St Marys is located to the north of the proposal, with Mamre Road connecting to Queens Street after the Great Western Highway. St Marys town centre is concentrated around St Marys Station which provides access to the industrial area in the north and local shops and community facilities to the south.



Figure 6-1 Blue Cattle Dog Hotel, St Clair



Figure 6-2 Businesses on Banks Drive, St Clair



Figure 6-3 Melville Road Shopping Centre, St Clair



Figure 6-4 Erskine Park Shopping Centre, Erskine Park

## 6.2.6 Tourism industry and events

### Penrith Destination Management Plan

The Penrith Destination Management Plan (PDMP) was prepared in 2015 for Penrith City Council. The PDMP was developed to understand the current and future tourism opportunities within the Penrith LGA, through consultation as well as the review of the existing environment and trends on a local, State and regional level (The Stafford Group, 2015).

The PDMP describes the Penrith LGA as a place that is mainly associated with visiting friends and relatives and events and festivals, particularly those associated with sports and recreation (The Stafford Group, 2015). Most of these areas are located in the suburb of Penrith within the Penrith LGA, clustered around transport corridors such as the M4 Motorway and the T1 - North Shore and Western Line.



The Nepean River (including the Great River Walk) and the Blue Mountains National Park are also located to the west of the broader study area. The Blue Mountains National Park is a world heritage listed park that provides walking tracks, camping areas and scenic outlooks across Sydney. The Nepean River and the National Park are in easy proximity to the Penrith LGA. Similarly, the Western Sydney Parklands are also located outside of the broader study area between Eastern Creek and Horsley Park. The parklands are comprised of large open spaces, BBQ and picnic facilities, playgrounds, cafes and markets, sporting facilities and major attractions, such as Raging Waters Sydney and Sydney Zoo (Western Sydney Parklands Trust, 2020).

In 2018/2019, international visitor nights accounted for 28.6 per cent of visitor stays in Penrith. Domestic overnight visitors accounted for 30.1 per cent of visits, with 41.3 per cent of visitors being domestic daytrips (Economy id, 2019).

A summary of international tourism in the Penrith LGA and Greater Sydney over a five-year period between 2014/2015 to 2018/2019 is presented in Appendix B. Data collected for this period indicated that the main purpose for people visiting the Penrith LGA was to visit friends and relatives, which was substantially higher than the portion of overseas people visiting friends and relatives in Greater Sydney. Greater Sydney had a higher proportion of people visiting for a holiday, compared to the Penrith LGA.

## 6.3 Land use

### 6.3.1 Land use and zoning

The direct study area is located within Orchard Hills, St Clair and Erskine Park. Comprised of a mix of land use areas, the direct study area includes the following land zonings (as per the Penrith LEP and WSEA SEPP, shown in Figure 6-5):

- SP2 – Infrastructure
- RE1 – Public recreation
- R2 – Low density residential
- E2 – Environmental conservation
- IN1 – General industrial
- RU2 – Rural landscape

Mamre Road provides a crucial connection between the Great Western Highway (north) and Elizabeth Drive (south). Zoned as SP2 – Infrastructure, Mamre Road is a two-lane road (one lane in each direction) which provides access to St Clair, Erskine Park, Orchard Hills and Luddenham. Mamre Road is located within a wide corridor, which has grassed and vegetated areas along its extent. Some of these grassed areas along the eastern side of Mamre Road are classified as Council owned and managed 'community land'. Some areas along the corridor have pathways connecting to residential areas as well informal greenspaces that are used for passive recreation (zoned as RE1 – Public recreation). Although these spaces are used by the public for recreation, they are used for flooding overflow during flood events. More information about flooding is in the Project REF.

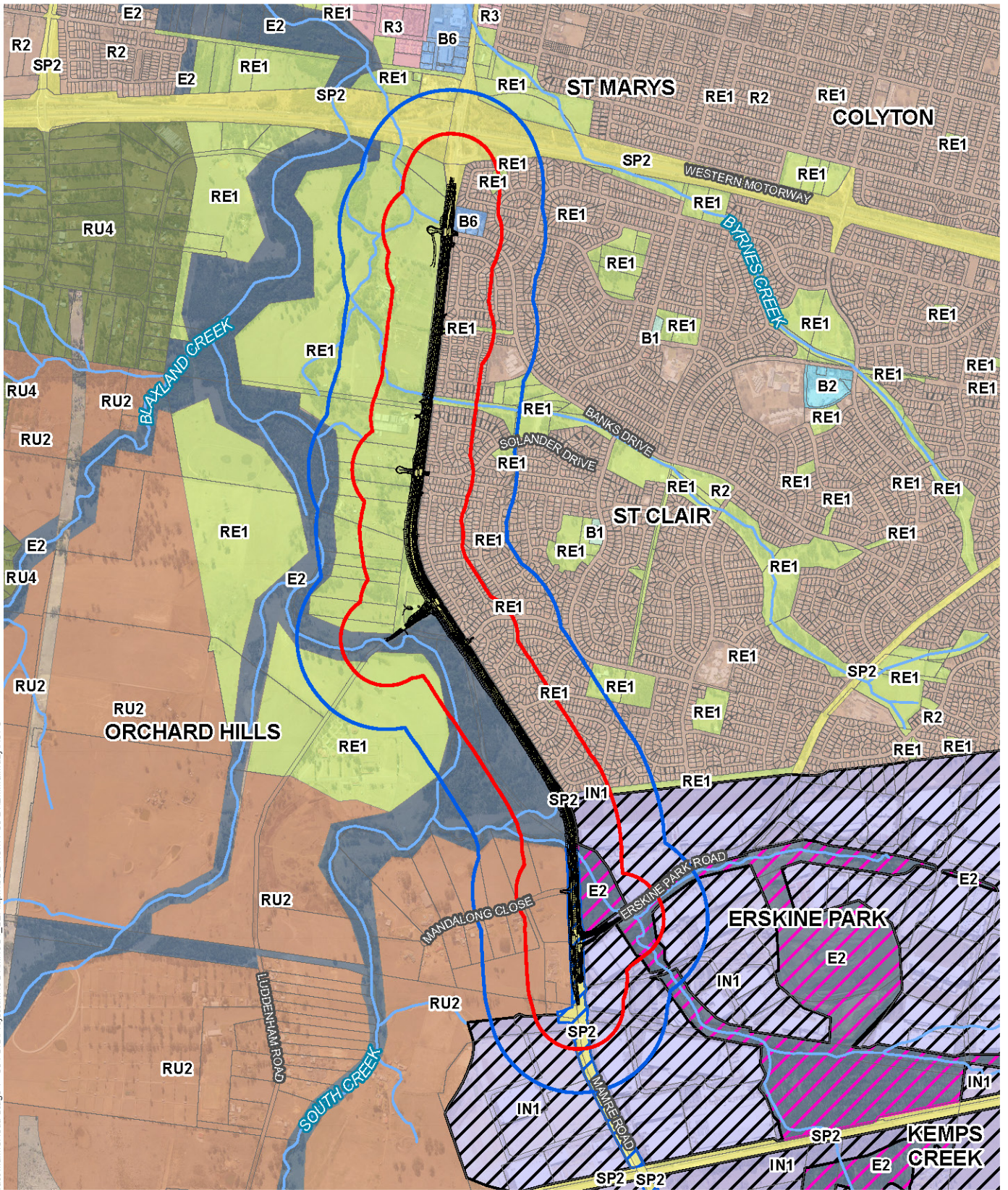
Along the western side of Mamre Road, land use is primarily large cleared agricultural/rural properties. Properties are set back from the road corridor with long driveways. The northern portion is zoned as RE- Public Recreation, with the southern portion zoned as E2 – Environmental conservation and RU2 – Rural landscape. The western side of Mamre Road is relatively un-developed, with some vegetated areas along creek lines and scattered throughout properties. Mamre Road provides access to Luddenham Road, which is the main access route for many agricultural properties. Most of the properties on the western side of Mamre Road are vacant lots (owned by the Office of Strategic Lands), with some residential and social infrastructure such as the Erskine Park Rural Fire Brigade and Old MacDonald's Child Care. More information about social infrastructure is discussed in Section 6.4.

The eastern side of Mamre Road is predominately comprised of urban residential properties in St Clair and Erskine Park (R2 – Low density residential). Properties are clustered around residential streets with social

infrastructure located throughout both suburbs. Erskine Park is located to the south east of the direct study area and includes the Erskine Business Park. Warehouses and storage facilities are located within the business park. Large freight vehicles use Mamre Road to access the business park from the M4 Motorway and Elizabeth Drive.

The proposal is located in an area of change. Strategic planning and future development in the broader study area would result in various changes to the landscape. The transition of the study area between rural/agricultural land to urban development is evident across the suburbs when travelling west to east toward the Sydney CBD. The diversity of the broader study area is illustrated in the figures below, as the varying land use and landscapes are shown in Figure 6-6 to Figure 6-11.

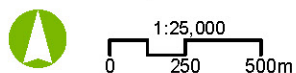




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- Waterways
  - Revised 80 % road design's centerline
  - Cadastre
  - Direct study area
  - Socio-economic study area
- Land Zoning (LEP)**
- B1 Neighbourhood Centre
  - B2 Local Centre
  - B6 Enterprise Corridor
  - E2 Environmental Conservation
  - IN1 General industries
- Land Zoning (WSEA SEPP)**
- E2 Environmental Conservation
  - IN1 General industries
  - SP2 Infrastructure
- R2 Low Density Residential
  - R3 Medium Density Residential
  - RE1 Public Recreation
  - RU2 Rural Landscape
  - RU4 Primary Production Small Lots
  - SP2 Infrastructure

Source: Aurecon, Spatial Services, Nearmap, Esri



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Figure 6-5: Land zoning





Figure 6-6 Mandalong Close Orchard Hills



Figure 6-7 Lansdowne Road Orchard Hills



Figure 6-8 St Clair Avenue, St Clair



Figure 6-9 Mamre Road, Erskine Park



Figure 6-10 Elizabeth Drive, Kemps Creek



Figure 6-11 Medinah Avenue, Twins Creek



### 6.3.2 Property

The direct study area, socio-economic study area and broader study area is comprised of a range of property types and ownership. This includes Crown land, Council owned and managed 'community land', open spaces, paddocks/agricultural land use areas, some vegetated areas and residential housing that ranges from low density suburban residential areas to agricultural residences set back from the road corridor. Properties within the direct study area that would be required for the proposal are owned by the Minister administering the Environmental Plan, Department of Planning, Industry and the Environment (DPIE), Office of Strategic Lands, Penrith City Council and the Planning Ministerial Corporation as well as several private landholders. There are also privately owned residential properties along the road corridor that would be partially acquired for the proposal. This is discussed further in Section 7.1.1.

The *Local Government Act 1993* establishes two classifications for council owned and managed land: 'operational land' and 'community land'. The proposal area includes areas classified as community land along the eastern side of Mamre Road, which would be impacted by the proposed noise wall, batters, culverts and swales. Division 2 of the Act outlines several procedures and restrictions regarding the use and management of community land.

## 6.4 Social infrastructure

Social infrastructure is spread out across the socio-economic study area, being a semi-rural and urban area. In the broader study area, facilities are clustered around shopping areas and large community facilities.

Social infrastructure located within the socio-economic study area is shown in Figure 6-12 and is summarised in Table 6-6.

**Table 6-6: Social infrastructure in the socio-economic study area**

Type of facility/infrastructure	Name and description	Distance from the proposal (metres approx.)
Educational	Banks Public Primary School, St Clair	About 220 metres east of the proposal
Child care centres	Old MacDonald's Child Care, Orchard Hills	About 80 metres west of the proposal
	Gumbirra Preschool, St Clair	About 400 metres east of the proposal
Parks and reserves	Gregory Blaxland Memorial Park, Orchard Hills,	About 393 metres west of the proposal
	Peter Kearns Memorial Oval, St Clair. The oval is the training ground for the St Clair Comets, Junior Rugby League Club	About 374 metres west of the proposal.
	Elizabeth Torrance Park, St Clair	About 235 metres east of the proposal
	Feathered Friends wildlife sanctuary/green space, Orchard Hills. Feathered Friends Sanctuary is home to over 100 bird species, providing care to injured and rescue birds and have a hawking field on Mamre Road that holds events throughout the year, including school education programs. (Feathered Friends, n.d)	Immediately west of the proposal
	Green space (also used for flooding overflow areas during flood events) between Mamre Road and Peter Kearns Memorial Oval, St Clair (Figure 6 13).	Immediately east of the proposal
Emergency facilities/services	Erskine Park Rural Fire Brigade, Orchard Hills (Figure 6 14)	Immediately west of the proposal

Type of facility/infrastructure	Name and description	Distance from the proposal (metres approx.)
Community facilities	<p>Catholic Care Mamre House and Farm – Community Centre (referred to as Mamre House hereafter), Orchard Hills (Figure 6 19). Mamre House and some of the associated features are classified as heritage items, holding local and state significance.</p> <p>Mamre House is used for events and private functions, whilst also supporting disability employment, training and services and other programs in the community. More information about heritage is in the Mamre Road Upgrade – Statement of Heritage Impact Assessment (Aurecon, 2021a).</p>	Immediately west of the proposal
Recreational facilities	<p>Recreational facilities including DOGS NSW (which includes the Bill Spilstead Complex for Canine Affairs (DOGSNSW, n.d), Orchard Hills. DOGS NSW is part of the Australian National Kennel Council Limited group, which promotes breeding, showing, trialling, obedience and other canine-related activities.</p>	About 215 metres west of the proposal

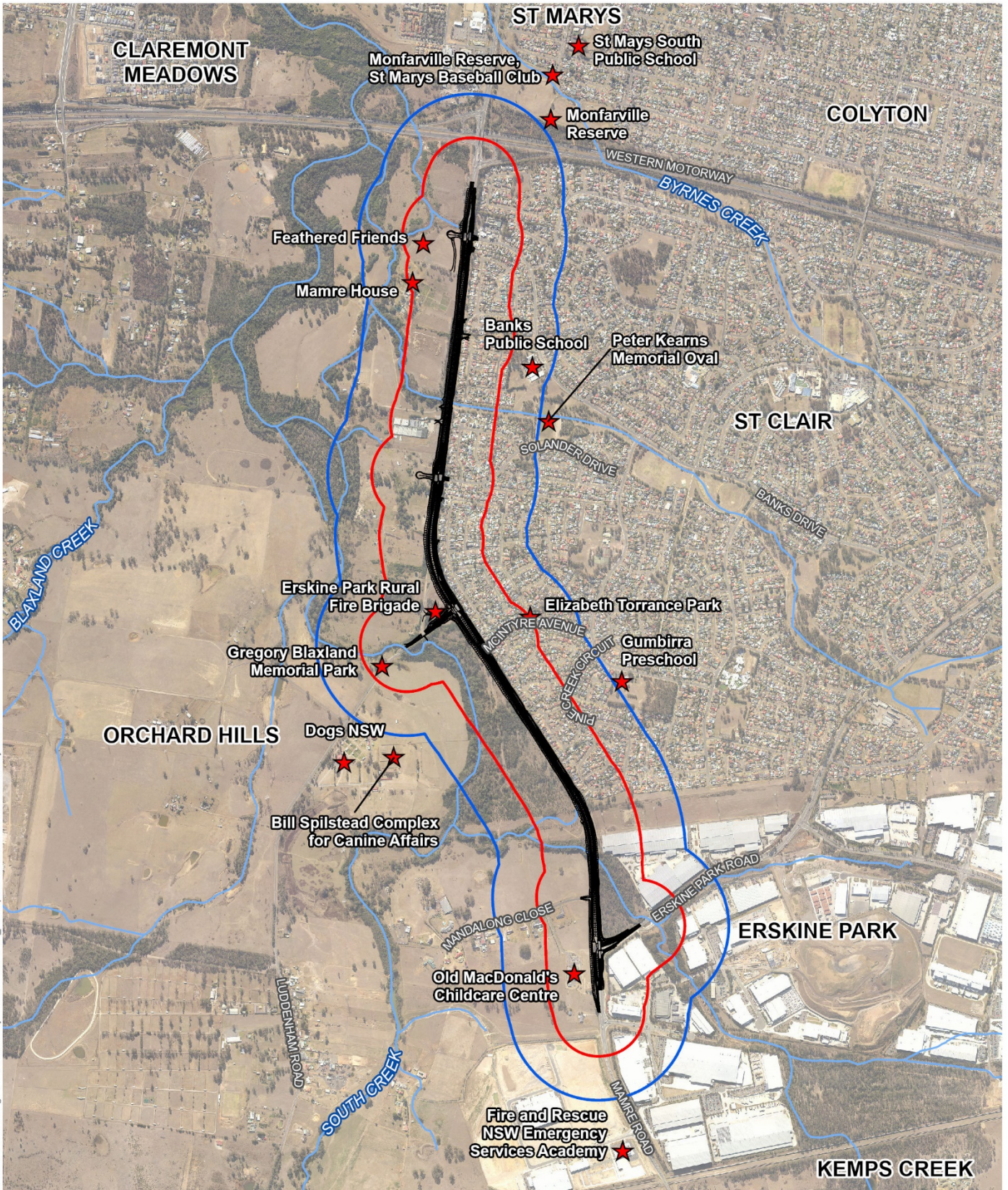
Mamre Road also provides an important link to social infrastructure facilities in St Clair and Erskine Park. This includes the Mark Leece Sporting Complex, Clairgate Public School, Blackwell Public School, Erskine Park High School, St Clair Leisure Centre and local places of worship.

In addition, Mamre Road also provides access to Bakers Lane in Kemps Creek. Bakers Lane provides access to a range of social infrastructure facilities including Catholic Healthcare Emmaus Village retirement community, Emmaus Catholic College, Trinity Primary School and Little Smarties Early Learning Centre.

Similarly, Luddenham Road which is accessed via Mamre Road also provides access to Twin Creeks Golf and Country Club, Luddenham Lodge Horse Riding, Luddenham Raceway and Sydney Society of Model Engineers.

Examples of social infrastructure located throughout the broader study area are shown in Figure 6-13 to Figure 6-20.



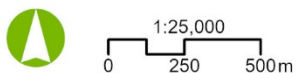


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- ★ Social infrastructure
- Waterways
- Revised 80% road design's centerline
- Socio-economic study area
- Direct study area



Source: Aurecon, Spatial Services, Nearmap, Esri



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 Projection: GDA2020 MGA Zone 56

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Figure 6-12: Social Infrastructure





Figure 6-13 Green space between Mamre Road and Peter Kearns Memorial Oval, St Clair



Figure 6-14 Erskine Park Rural Fire Brigade



Figure 6-15 Signage at the intersection of Luddenham Road and Mamre Road



Figure 6-16 Erskine Park community centre and hall signage



Figure 6-17 St Clair Skate Park, St Clair



Figure 6-18 St Clair Dog Exercise Area, St Clair





Figure 6-19 Mamre House community facility, Orchard Hills<sup>2</sup>



Figure 6-20 Emmaus Village (Kemps Creek) retirement community, Kemp's Creek<sup>3</sup>

## 6.5 Access and connectivity

### 6.5.1 Vehicle ownership and travel patterns

Table 6-7 provides a summary of the vehicle ownership. Table 6-8 provides a list of other transport methods used in the broader study area, Penrith LGA and Greater Sydney.

Table 6-7 Vehicle ownership in 2016

Indicator	Broader study area		Penrith LGA		Greater Sydney	
	Number	%	No	%	No	%
Households with no vehicles	921	5.3%	3,869	6.1%	179,500	11.1%
Average motor vehicles per dwelling	-	-	2	-	1.7	-

Table 6-8 Travel to work data for the broader study area, Penrith LGA and Greater Sydney in 2016 (main categories)

Indicator	Broader study area		Penrith LGA		Greater Sydney	
	Number	%	No	%	No	%
Travel to work by car (as driver)	18,566	68.0%	63,086	66.5%	1197269	52.7%
Travel to work by train	1,253	4.6%	5,354	5.6%	247051	10.9%
Travel to work by bus	220	0.8%	770	0.8%	125503	5.5%
Travel to work by car (as passenger)	1,418	5.2%	4,666	4.9%	89273	3.9%
Travel to work by truck	591	2.2%	1,721	1.8%	19540	0.9%
Travel to work by motorbike/scooter	103	0.4%	434	0.5%	14890	0.7%
Travel to work by bicycle	39	0.1%	185	0.2%	16471	0.7%
Travel to work by walking only	328	1.2%	1,307	1.4%	91577	4.0%
Worked at home	916	3.4%	2,888	3.0%	98906	4.4%

Note: Full list of travel categories available in Appendix B

<sup>2</sup> <https://www.environment.nsw.gov.au/heritageapp/HeritageItemImage.aspx?ID=2260228#ad-image-1>

<sup>3</sup> <https://www.catholichealthcare.com.au/residence/emmaus-village/>

The high vehicle ownership, number of motor vehicles per dwelling and preferred method of travel to work by car as a driver within the broader study area and Penrith LGA compared to Greater Sydney shows that the broader study area and Penrith LGA relies on private vehicle use. This may also reflect a lack of public transport options in these areas in comparison to Greater Sydney. Some areas within the broader study area are more remote, such as parts of Kemps Creek - Horsley Park, Erskine Park and Mulgoa - Luddenham - Orchard Hills. Areas such as St Marys-North St Marys are more densely populated, clustered around businesses and transport interchanges, therefore these areas are more likely to have more public transport users and have a lesser reliance on private vehicles.

## 6.5.2 Road network

Table 6-9 provides an overview of the roads within the direct study area and some which are shown from Figure 6-21 to Figure 6-23.

**Table 6-9 Overview of the road network within the direct study area**

Road name	Description
Mamre Road	Mamre Road is predominately a two-lane road (one lane in each direction) with road shoulders and intersections along its extent. There are some sections of Mamre Road that have additional slip and turning lanes to facilitate movements at intersections. Bus stops are located along Mamre Road with some sections of footpath and cyclist paths from connecting streets. Footpaths and cyclist lanes are discontinuous along the extent of Mamre Road. Parking is not permitted on Mamre Road within the direct study area.
Banks Drive	Banks Drive is a two-lane road (one lane in each direction) that connects Mamre Road to the suburb of St Clair. Banks Drive has parking within the road shoulders along its extent, with bus stops, school zones and roundabouts providing access to residential streets.  Banks Drive is accessible from Mamre Road via a signalised intersection in the northern section of the direct study area.
Solander Drive	Solander Drive is a two-lane road (one lane in each direction) that connects Mamre Road to the suburb of St Clair. There is parking on Solander Drive within the road shoulders as well as a school zone. Solander Drive is accessible from Mamre Road via a T-intersection in the centre of the direct study area.
McIntyre Avenue	McIntyre Avenue connects Mamre Road with the southern section of St Clair, on the southbound side of the road corridor. McIntyre Avenue is a two-lane road (one lane in each direction) with parking on road shoulders. McIntyre Avenue is located in the centre of the direct study area.
Luddenham Road	Luddenham Road connects to Mamre Road on the western side, providing access to the suburb of Luddenham and the Twins Creek Estate. Luddenham is only accessible via surrounding roads Mamre Road and Elizabeth Drive at its southern end. Luddenham Road is a two-lane road (one lane in each direction), located in the centre of the direct study area. Parking is not available along the extent of Luddenham Road.
Mandalong Close	Mandalong Close connects to Mamre Road to the west. Mandalong Close is a dead-end street, without road markings. It is a wide street that provides access to rural residential/agricultural properties and is located in the southern section of the direct study area.
Erskine Park Road	Erskine Park Road is located at the southern end of the direct study area, providing access to Erskine Park Business Park and industrial precincts further east, within Horsley Park and Kemps Creek. Erskine Park Road is accessible via a signalised intersection, with footpaths and a shared user pathway connecting Mamre Road to Erskine Park Road.





Figure 6-21 Mamre Road (looking north)



Figure 6-22 Intersection of Mamre Road and Banks Drive (looking east)





Figure 6-23 Intersection of Mamre Road and Solander Drive (looking south)

### 6.5.3 Public transport

#### Buses

There are various bus stops located throughout the direct study area. The majority of the bus stops on Mamre Road are not sheltered and do not have seating with the exception of:

- the two sheltered bus stops with seating on Mamre Road near Banks Drive (Figure 6-24)
- two sheltered bus stops with seating on Erskine Park Road near the intersection with Mamre Road.

Some bus stops are also located on grassed roadside areas (Figure 6-25). Buses that service Mamre Road include:

- 779 Erskine Park to St Marys
- 776 Mount Druitt to Penrith via St Clair
- Bus services from the schools in Bakers Lane (such as Mamre Anglican School and Emmaus College) to surrounding areas.





Figure 6-24 Bus stop on Mamre Road



Figure 6-25 Bus stop in St Clair

## Train

St Marys Train Station is located in the broader study area in St Marys, north of the direct study area. The station is serviced by the T1 - North Shore and Western Line which travels between the Penrith LGA (terminating at Emu Plains) and the Sydney CBD. St Marys Station is also serviced by the N70 night bus which travels between the Penrith LGA and Sydney CBD during 12am and 6am. There is a bus interchange located on the southern side of the station, street parking and car parks (including Station Plaza car park), taxi ranks and bicycle rack areas.

## 6.5.4 Freight

Mamre Road between the M4 Motorway and Elizabeth Drive is an important freight route for Western Sydney and Greater Sydney. Mamre Road provides access to Erskine Business Park, Erskine Park and other large industrial precincts in Horsley Park and Eastern Creek. These precincts are comprised of warehouses and office spaces, with large vehicle access. Freight carriers travel from the surrounding road network, including the M7 Motorway and The Northern Road to access these precincts. Storage, supplier and freight companies, manufacturers, corporate offices, cafes and retailers are located throughout in these precincts. As stated on the TfNSW Combined Higher Mass Limits (HML) and Restricted Access Vehicle (RAV) Map, Mamre Road and Erskine Park Road are both classified as routes that support B-double heavy vehicles between 19 metres to 25/26 metres<sup>4</sup>.

<sup>44</sup> <https://www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html>



### 6.5.5 Walking and cycling

There are discontinuous pathways along Mamre Road through the direct study area, with concrete pedestrian pathways located at the two signalised intersections (see Figure 6-26). Pathways in both locations taper off and lead to the road corridors on either side of Mamre Road.

There are also some access pathways in St Clair, which connect to Mamre Road from St Clair local streets, as shown in Figure 6-27. There are also discontinuous bicycle lanes on Mamre Road along its extent, with road markings and signage indicating the lanes in some locations (Figure 6-28).

The Roads and Maritime Cycleway Finder (2020) classifies Mamre Road as 'Hard Difficulty' for cycling. As shown in the figures below, there are sections of Mamre Road that are relatively narrow for cyclists close to traffic. It is likely that cyclists on Mamre Road may experience difficulty cycling due to the closeness of fast-moving light and heavy vehicles and the discontinuity of the pathway and markings.

Within the broader study area, there are limited pedestrian and cyclist paths, that connect to the rest of the Penrith LGA. Most pathways within the surrounding suburbs are discontinuous and do not connect to other suburbs.



Figure 6-26 Pedestrian pathways in the direct study area near intersections (looking south)



Figure 6-27 Access pathways to residential streets in St Clair (looking east)





Figure 6-28 Cyclist lane on Mamre Road in Luddenham (north of Erskine Park Road, looking north)

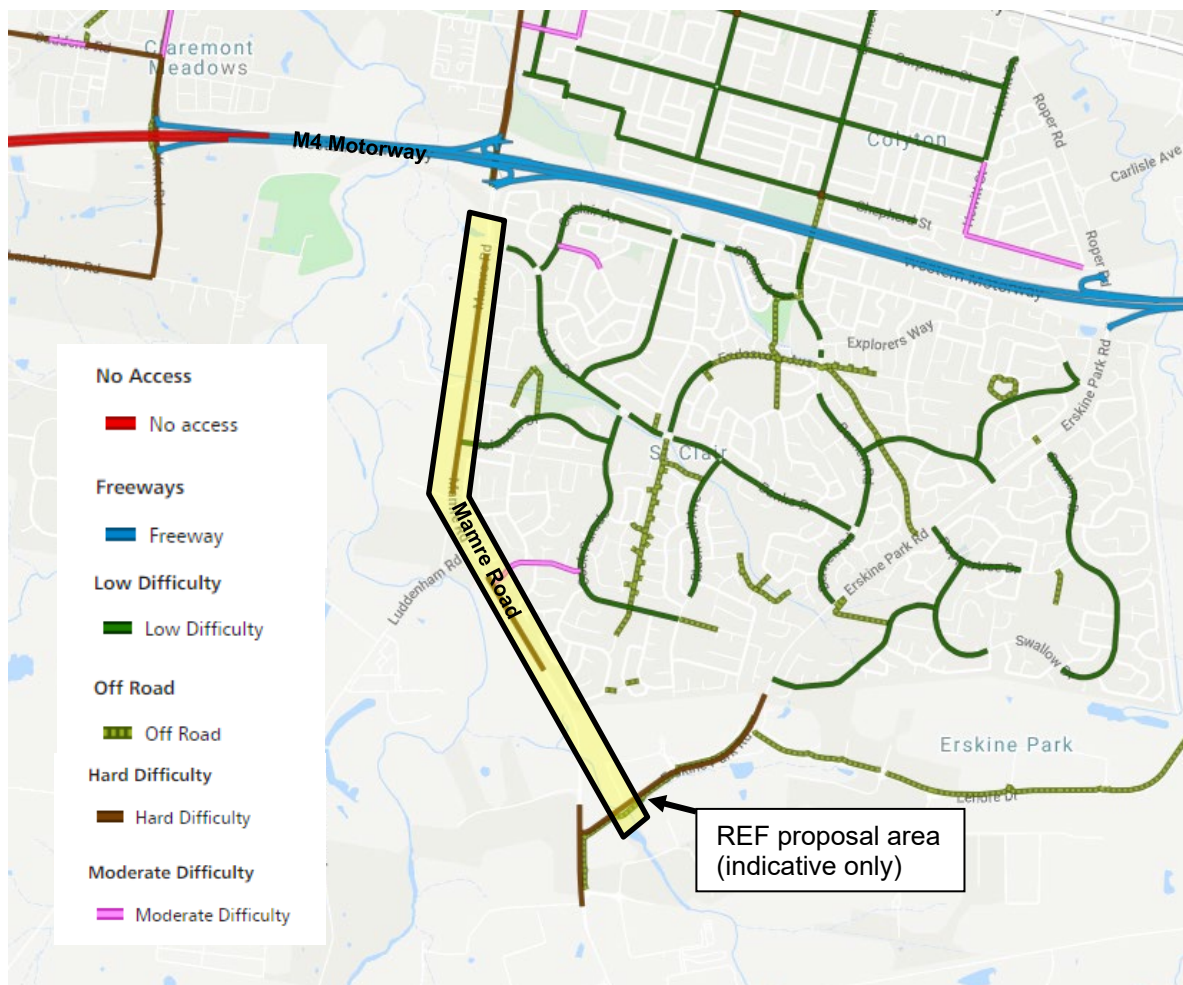


Figure 6-29 Cycleway Finder in the direct study area (Roads and Maritime Services Cycleway Finder, 2020)<sup>5</sup>

<sup>5</sup> [https://www.rms.nsw.gov.au/maps/cycleway\\_finder](https://www.rms.nsw.gov.au/maps/cycleway_finder)

## 6.6 Community values

Understanding the values of a community is fundamental to identify what is most important for residents for quality of life and wellbeing and provides context and insight into how the community may perceive impacts of the proposal. Values often relate to amenity, social cohesion, social wellbeing and can be associated with social infrastructure.

The *Community Engagement Strategy 2019* was released by Penrith City Council to explain how Council engaged with the community and partners to develop the CSP (Penrith City Council, 2019).

In the Strategy, the following feedback was provided to council:

- Top three challenges facing Penrith LGA over the next 10 years include: traffic congestion, managing population growth and infrastructure catering to the growing population
- Infrastructure meeting population needs was rated third most important in the services and facilities category
- Penrith's most valued features are location, natural environment and peaceful place to live.
- The services and facilities with the lowest satisfaction rating were ease of traffic flow and lack of infrastructure that meets population needs.

Based on the feedback received from the community, it is evident that the community values the need to address the challenges associated with growth and development. From the feedback received during consultation, three primary values were developed for the CSP, which are respect, accountability and innovation. As stated in Section 4, the CSP provides a planning framework for Penrith, outlining the following seven outcomes:

- Work close to home: Helping our community find a local job that suits them
- Plan for our future growth: Making sure that services and infrastructure keep up as Penrith grows
- Getting around our city: Making sure we can get from place to place safely and easily, whether we drive, walk, cycle or ride the train or bus.
- Safe, vibrant places: Making sure our public spaces are safe, pleasant places to be
- Our environment: Protecting our air and water quality, and our natural areas
- Health and community spirit: Supporting the physical and mental health of our community.
- Our Council: Putting our values into action: We are accountable. We show respect. We encourage innovation.

The needs and outcomes of the community are often a reflection of what they value most. The themes identified in the CSP are what contributes to the liveability of the Penrith LGA. As stated in the CSP, the community is made up of individuals, businesses, governments and agencies that contribute to future outcomes for Penrith, therefore working collaboratively to deliver the outcomes of the CSP is paramount (Penrith City Council, 2017). The outcomes of the CSP are defined as the key to improving the liveability of Penrith as a place to live, work and visit (Penrith City Council, 2017).



# 7 Impact assessment

## 7.1 Construction

### 7.1.1 Property acquisition and adjustments

The proposal would require the acquisition and adjustment of properties within the direct study area. In addition, some land parcels would also be temporarily leased for ancillary facilities. A list of properties impacted are shown in Figure 7-1 to Figure 7-4.

There would be 41 lots that would be directly affected by lease and/or acquisition required for the proposal. These areas are approximate only and may change during the design refinement phase of the proposal. Some lots would be subject to both lease and acquisition depending on timing and requirements of the construction stages. The anticipated area of acquisition required for the proposal is around 11.1 hectares. Acquisition would be required for the road surface and associated permanent project features, such as the shared pathway. Acquisition would consist of strip acquisition of properties to the east and west of Mamre Road. There is limited acquisition on the eastern side, with the majority of acquisitions located predominately south of the suburb of St Clair. No acquisition of residential properties within St Clair would occur. Where required, property adjustments including provision of new fencing and driveway access would be undertaken.

All acquisition required on private properties to the west of the proposal would be partial acquisitions. As the majority of the residences are set back from the road, impacts to the front of properties would not require the demolition of any residences, structures or buildings. In some instances, some rural residential properties on the western side of the proposal would need to move existing agricultural operations from those portions of their land near Mamre Road to be acquired. As areas to be acquired are close to the road corridor and relatively small in comparison to the rest of the rural residential property, acquisition is not expected to have a substantial impact on the operation and use of these properties for community activities, agriculture and business.

People who own or occupy private residential properties may experience stress and anxiety as a result of the partial acquisitions. Some property owners and tenants would be more vulnerable to the impacts of acquisition than others. This includes people with the need for assistance, older people and those with lower levels of economic resources. Located in an area of change and development, residents in the direct study area that are impacted by property acquisition may also be more sensitive to the impacts of property acquisition, due to the transforming nature of the area around them.

Leased areas required for the proposal include land for construction access and ancillary facilities. These properties would be temporarily used during the construction of the proposal.

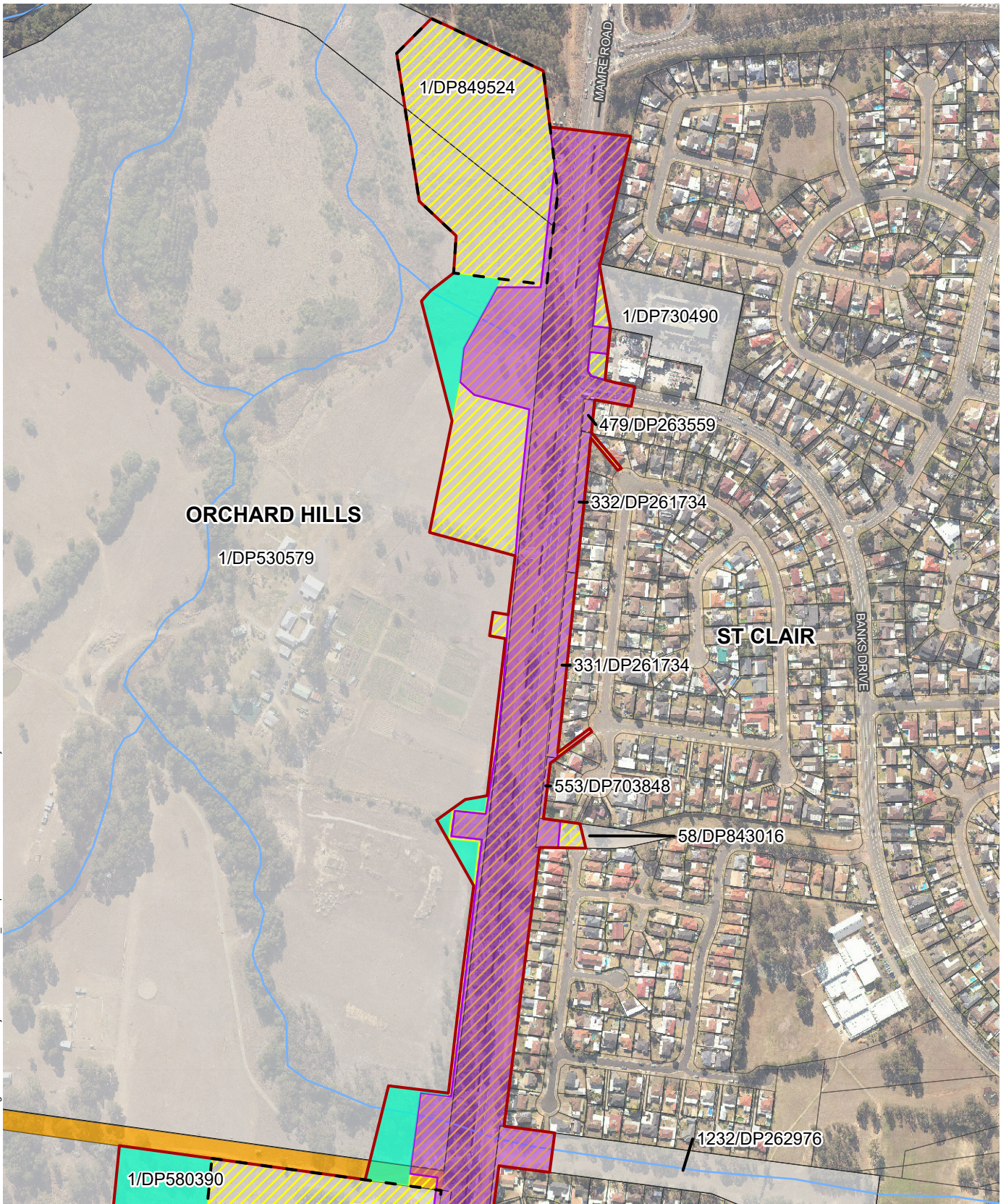
All property acquisition would be carried out in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*, *Land Acquisition Reform 2016* process.

Council owned and managed, 'community land' east of Mamre Road will be leased and/or acquired in accordance with the *Local Government Act 1993*. Any potential impacts to community land will require consultation with the community and agreement from Council. TfNSW will continue to consult with Penrith City Council regarding council owned land and assets (including the areas classified as community land). The design for the proposal will also be refined during detailed design to minimise impacts on community land, where possible.

The small areas of Crown land would be leased and/or acquired in accordance with the *Crown Land Management Act 2016* and *Crown Land Legislation Amendment Act 2017*. TfNSW would consult with landowners prior to the commencement of construction to establish necessary arrangements for acquisition, leasing and access.

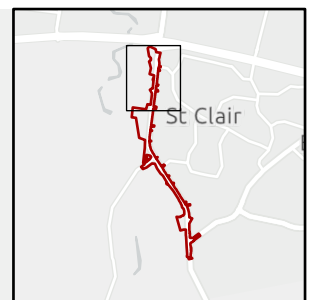
**Significance of property acquisition and adjustment impacts:** Based on the characteristics of property owners and occupiers, sensitivity of these stakeholders is moderate. The magnitude of both the temporary and permanent changes during construction would be moderate, resulting in the significance of the impact being moderate.



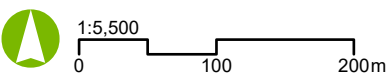


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- REF Proposal Area
- Compound Sites
- Acquisition Boundary
- Lease Boundary
- Crown Land
- No - Go Zones
- Intersected Lots
- Suburb
- ~ Waterways



Source: Aurecon, Spatial Services, Nearmap, Esri

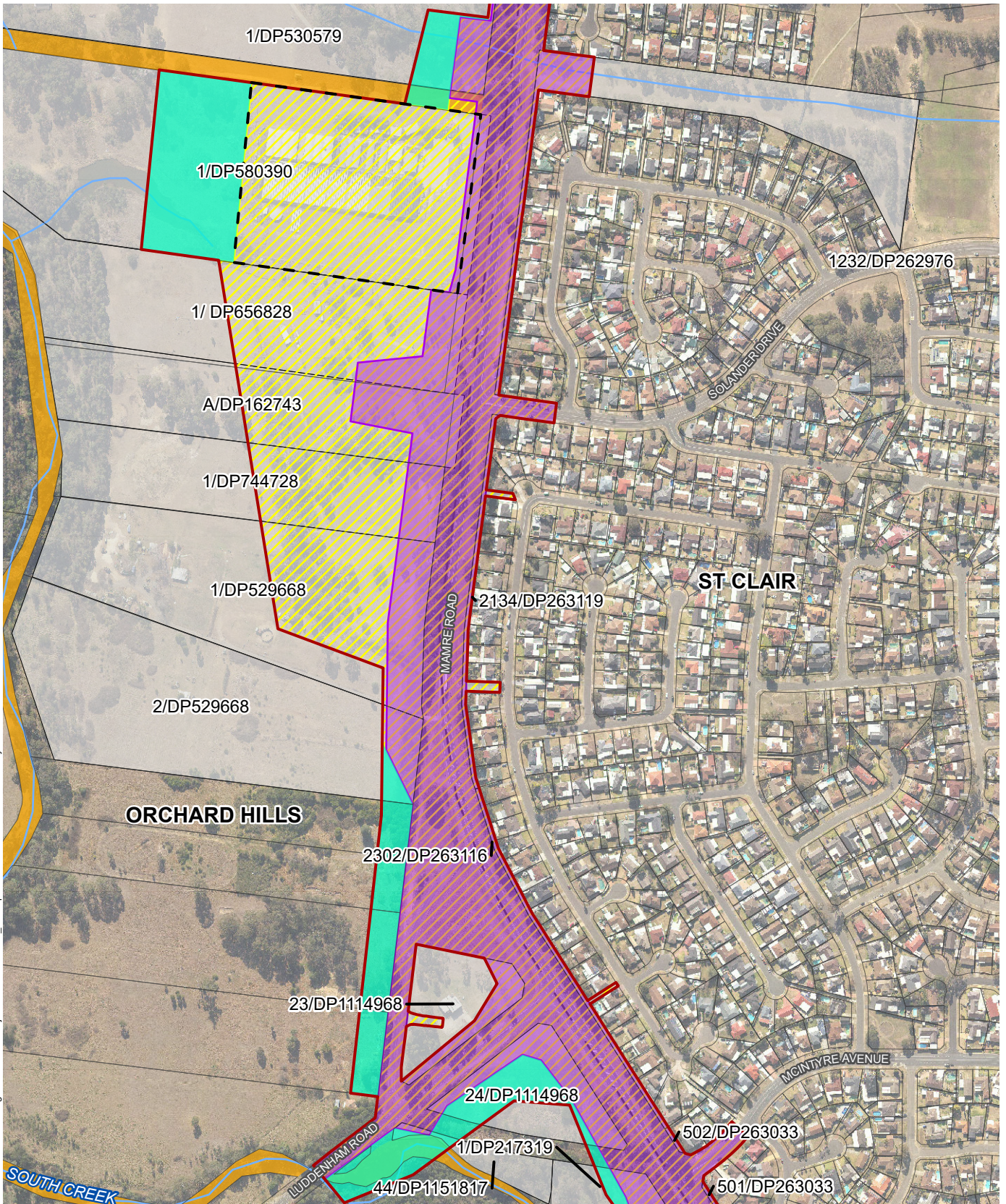


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Mamre Road Upgrade Stage 1

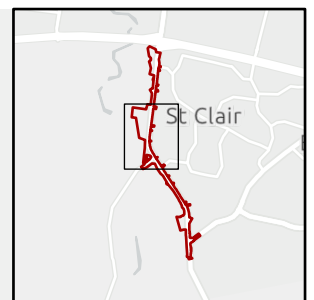
Figure 7.1: Proposed property acquisition



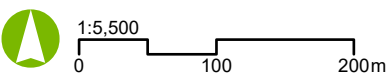


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- |                      |                  |
|----------------------|------------------|
| REF Proposal Area    | No - Go Zones    |
| Compound Sites       | Intersected Lots |
| Acquisition Boundary | Suburb           |
| Lease Boundary       | Waterways        |
| Crown Land           |                  |



Source: Aurecon, Spatial Services, Nearmap, Esri

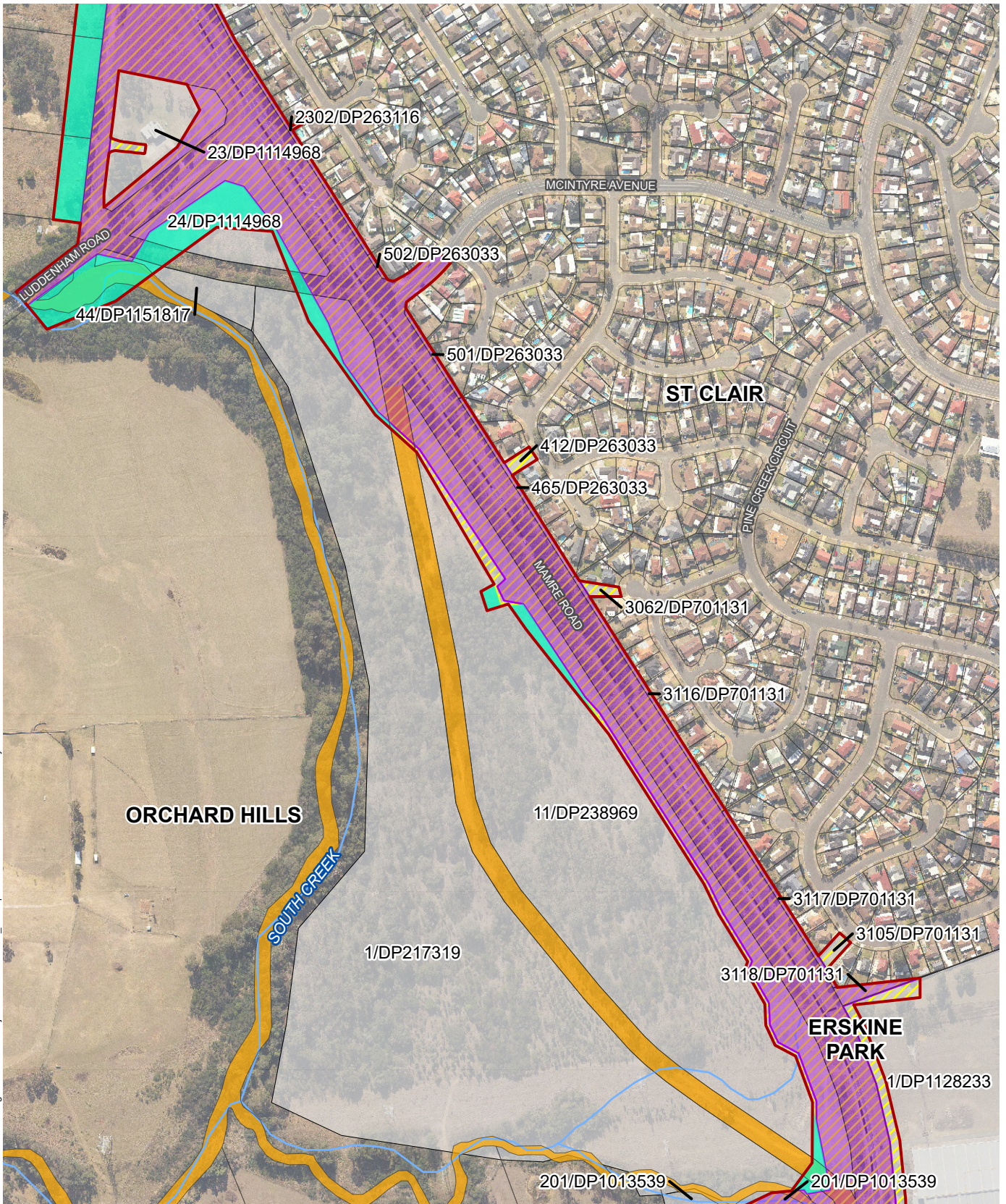


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 Projection: GDA2020 MGA Zone 56

### Mamre Road Upgrade Stage 1

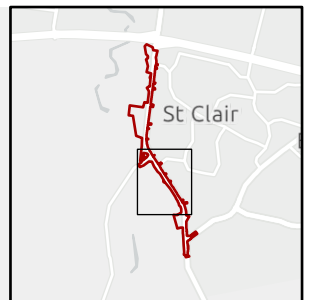
Figure 7.2: Proposed property acquisition



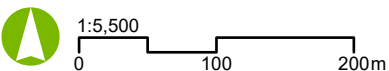


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- REF Proposal Area
- No - Go Zones
- Compound Sites
- Intersected Lots
- Acquisition Boundary
- Suburb
- Lease Boundary
- Crown Land
- ~ Waterways



Source: Aurecon, Spatial Services, Nearmap, Esri

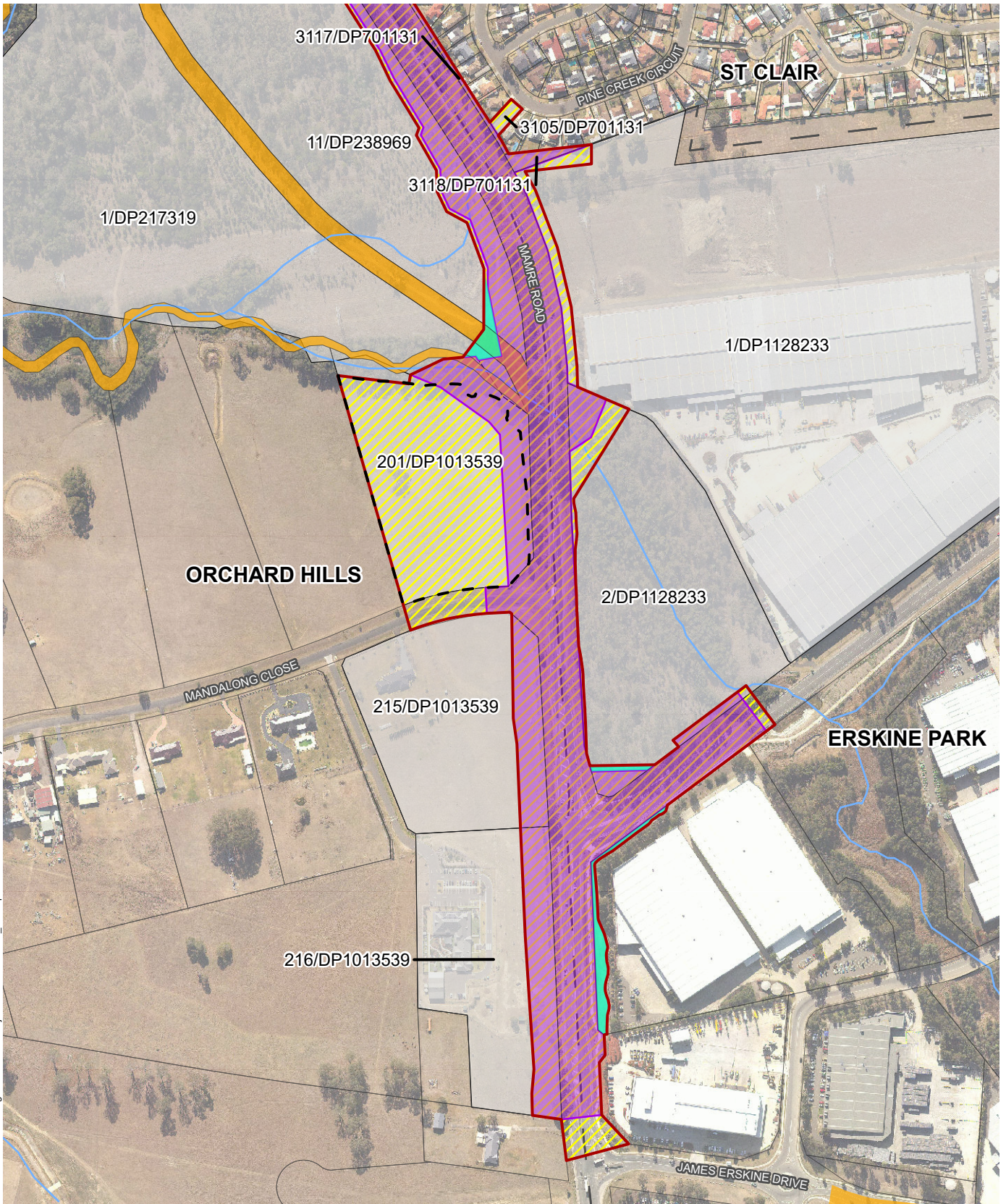


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Mamre Road Upgrade Stage 1

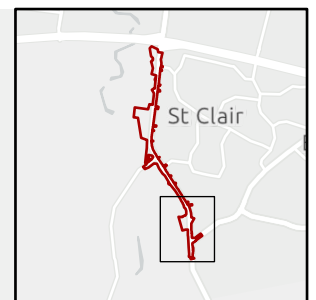
Figure 7.3: Proposed property acquisition



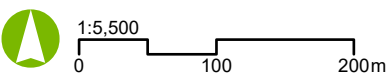


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- REF Proposal Area
- Compound Sites
- Acquisition Boundary
- Lease Boundary
- Crown Land
- No - Go Zones
- Intersected Lots
- Suburb
- ~ Waterways



Source: Aurecon, Spatial Services, Nearmap, Esri



Date: 18/08/2021 Version: 3  
 Projection: GDA2020 MGA Zone 56

Mamre Road Upgrade Stage 1

Figure 7.4: Proposed property acquisition



## 7.1.2 Land use changes

There would be temporary land use changes during construction:

- Ancillary sites 1 and 2 are in an existing RE1 – Public recreation zoned area. Site 1 would be located within green space between South Creek and Mamre Road, occupying a cleared section of land, closest to Mamre Road. The ancillary site would only occupy a small portion of the overall property.
- Ancillary site 2 would occupy a vacant lot that was previously used as a nursery.
- Ancillary site 3 would occupy cleared agricultural land, used for cattle grazing. Land use would temporarily change from rural residential to infrastructure land use.

These areas would be temporarily used during early works and construction and would be restored to their previous use upon completion of construction.

**Significance of land use impacts:** The sensitivity of land occupiers, owners and the broader study area to changes in land use is low. The magnitude of the changes would be low resulting in the significance of the impact being low.

## 7.1.3 Access and connectivity

### Property access and road network

The proposal would result in some temporary changes to access and connectivity within and surrounding the direct study area. Construction may require some partial road closures and detours for the construction of intersection arrangements. This may result in the implementation of alternative property access and travel routes for road users.

Access that would be impacted during construction is as follows:

- property street accesses on Mamre Road
- local street access at intersections with Mamre Road, including Banks Drive, Solander Drive, Luddenham Road, McIntyre Avenue and Mandalong Close where tie-in works would be undertaken.

Access to social infrastructure facilities within the direct impact area would also be affected during construction. This includes access to:

- Mamre House near the intersection of Banks Drive and Mamre Road
- Erskine Park Rural Fire Brigade at the intersection of Luddenham Road and Mamre Road
- Old MacDonald Childcare Centre which is accessible from Mandalong Close.

In particular, vehicular access to Mamre House would need to be maintained during the construction of the new intersection arrangement. Before the new access at the fourth leg into Banks Drive has been constructed, alternative access would need to be arranged for vehicles entering and exiting Mamre House and for pedestrians who may also be travelling through the site to the pedestrian crossing at Banks Drive. More information about impacts to these facilities are discussed in Section 7.1.4.

Property access would be maintained during construction (unless otherwise agreed with the property owner/occupier) through management of existing accesses or provision of alternate access routes where feasible. Changes in access from the ease and convenience of uninterrupted access prior to construction, to potentially altered and delayed access to properties may cause frustration to some residents, particularly those whose properties front onto Mamre Road. As mentioned in Section 6.5, the residents in the direct study area, socio-economic study area and broader study area have a strong reliance on private vehicles for travel. Impacts to access and the local road network during construction may limit/change the way people move around, impacting liveability. Changes to access would be carried out in consultation with the relevant property owner/occupier.

Haulage routes describe the roads that the construction traffic and delivery vehicles would use to enter and leave the direct study area. Construction vehicles are expected to include an average of 75 light vehicles, 75



heavy vehicles and two oversized vehicles per day. These vehicles would use Mamre Road, Erskine Park Road, Elizabeth Drive and the M4 Motorway as haulage routes. These roads are approved for heavy vehicles (including B-doubles). Use of local roads by construction vehicles as haulage routes would be avoided where possible, to minimise impacts to the local community. Construction vehicles are expected to add to traffic levels on the local road network. This may temporarily impact the efficiency of Mamre Road and connecting road network.

The construction of the proposal would be staged by using alternate traffic arrangements that would facilitate one lane of traffic in each direction to allow Mamre Road to remain operational throughout construction. This may result in increased traffic on the surrounding road network including local streets, which could affect traffic flow and result in some minor increased travel times. In addition, the use of detours would result in decreased accessibility and efficiency on the road network.

Changes along Mamre Road, including restrictions, traffic signals, road closures and new connections may impact the liveability of the socio-economic study area. Residents may feel stressed or anxious in response to consistent changes to the network and having to utilise alternative and/or unfamiliar routes. The use of detours and alternate traffic arrangements would be temporary and limited to out of peak traffic periods where possible, such as during the night. Alternate traffic routes would be required at the intersections of McIntyre Avenue, Solander Drive and Mandalong Close during temporary turning bans in and out of Mamre Road during certain construction stages. This would impact the efficiency of travel for people wanting access via these intersections. It may also result in an increase of traffic using nearby local roads as alternative access routes. This may result in some increases in traffic along local roads and delays for motorists and cyclists. As construction would be staged, impacts would be relatively short in duration and limited to certain sections of Mamre Road at one time.

Roads connecting to Mamre Road may also experience traffic impacts during construction:

- Luddenham Road is only accessible via Mamre Road at its northern extent and Elizabeth Drive at its southern extent. Temporary closures would result in substantial detours for residents and motorists wanting to access properties on Luddenham Road. This includes the residential community of Twin Creeks Estate, which includes residential properties, social infrastructure facilities and a golf course and country club.
- Banks Drive may experience traffic impacts due to the residential density of St Clair and facilities that would be accessed from Banks Drive. During construction, additional traffic on Banks Drive may cause congestion and delays. Alternatively, heavy vehicles could use Erskine Park Road to access M4 Motorway, to reduce the pressure on Mamre Road and other local areas.

## Parking

In some instances, tie in works may require some additional areas within connecting streets for the development of new intersection arrangements and for storing construction materials and equipment. This would reduce some parking spaces closest to intersections, and would impact the elderly and people who have mobility constraints, as they may need to park further away from properties.

Removal of parking would occur at the Solander Drive and McIntyre Avenue intersections. Three parking spaces on the eastbound side and three parking spaces on the westbound side of Solander Drive would be removed to provide space for the eastbound through traffic lane. Two parking spaces on the eastbound side of McIntyre Avenue would be removed to accommodate new kerb adjustments for the intersection.

The removal of these parking spaces would result in residents and visitors having to use alternative parking on Solander Drive and McIntyre Avenue. This may impact less mobile and elderly people, particularly if they are required to travel greater distances between cars and residences. As there is sufficient alternate parking on both these streets and within existing properties, parking impacts are likely to be minor.

Construction workers would be encouraged to park in parking areas within ancillary facilities and share vehicles when travelling to construction areas to limit potential parking impacts in surrounding local roads.

## Freight and business movements

Construction may impact business operations through temporary road closures and construction traffic on Mamre Road. This includes businesses within Erskine Business Park that use Mamre Road for connection to the M4 Motorway and Elizabeth Drive. Some businesses may be operational over 24-hour periods, or outside of peak periods, therefore road closures during these periods may impact business movements. If detours are proposed, heavy vehicle movements within the direct study area may be difficult to negotiate on the local road network in suburbs such as St Clair, Erskine Park and Luddenham. If delivery periods are time sensitive, such as produce deliveries or the movement of livestock, alternate routes for heavy vehicles may also impact some businesses, including businesses south of the proposal in Kemps Creek. More information about potential impacts to business operations are provided in Section 7.1.5.

## Emergency services

Access along Mamre Road would be maintained for emergency vehicles, including the Erskine Park Rural Fire Brigade. During construction, access along Mamre Road for emergency services may be affected due to contraflow arrangements. This may impact the efficiency of emergency services if delays occur.

A new access arrangement would be provided for the Erskine Park Rural Fire Brigade connecting to old Luddenham Road. More information about impacts to the Erskine Park Rural Fire Brigade is provided in Section 7.1.4.

## Active transport

Although there are no continuous dedicated pedestrian paths on Mamre Road, access for pedestrians within the direct study area would be maintained during construction. In some work areas, detours and alternative temporary pathways around construction areas may be required to safely maintain access for pedestrians. Delays may be experienced by less mobile people, such as people with prams and older people, travelling within the direct study area.

Walking access to Mamre House would be maintained through the Banks Drive intersection, during construction. Safety barriers would separate users from the construction zone, to provide safe passage during construction. Any temporary disruptions to walking access (such as at tie-in locations during final surfacing) would be managed so that pedestrians are able to continue their journey.

Cycling access would be maintained along Mamre Road, between Erskine Park Road to Mandalong Close during early construction, prior to the opening of the proposed new shared use path for pedestrians and cyclists. This shared path would be located on the western side of Mamre Road, between Erskine Park Road and Mandalong Close. Throughout the rest of the proposal area, there is little existing provision for cyclist movement along Mamre Road, which makes it difficult for cyclists to safely use Mamre Road as an access route. To provide additional safety during construction, alternative cycling routes would be identified to cyclists. These alternative routes would be via the local road network and may result in additional distances travelled of between 1.4 kilometres and 3.8 kilometres, compared to travelling along Mamre Road. This would likely result in temporary disruptions to connectivity for cyclists who usually travel along Mamre Road.

## Public transport and school bus routes

Bus services that travel on Mamre Road may be impacted during construction. The temporary relocation of bus stops away from construction zones would be required during early works and construction, include the existing bus stops at the Banks Drive and Erskine Park Road intersections. The existing bus stops on Mamre Road near the Mamre House entrance would also be temporarily closed during construction. Commuters would be encouraged to use an alternate bus stop on Banks Drive, westbound and eastbound about 90 metres and 150 metres from the existing Mamre Road bus stops, respectively. This may result in commuters having to travel further distances to access alternative bus stop locations. It may also cause some confusion for commuters that are unfamiliar with services within the area.

Local and school bus routes may experience disruptions due to construction traffic and work areas on Mamre Road. As mentioned in Section 6.5.3, school buses service the population of the broader study area, including school children that may travel to St Mary's Station to travel home.



**Significance of access and connectivity impacts:** The sensitivity of road users (both local and those travelling through the direct study area) to changes in access and connectivity is high. The magnitude of the temporary changes during construction would be moderate, resulting in the significance of the impact being high-moderate.

## 7.1.4 Social infrastructure

### Direct study area

#### **Feathered Friends wildlife sanctuary/greenspace**

As mentioned in Section 7.2.2, ancillary site 1 and the new driveway arrangement at Banks Drive would be located in the green space to the west of the proposal near the Feathered Friends wildlife sanctuary. The use of this portion of the green space would not substantially impact the use of this area as the ancillary site and new driveway would only occupy a small portion of the space. However, access and amenity impacts would be experienced by users of the facility and green space during construction, for the development of the driveway and use of the ancillary facility. As the Feathered Friends wildlife sanctuary is located next to Mamre House, impacts would be similar to those discussed below.

#### **Mamre House**

Mamre House is likely to be impacted during the early works and construction phase of the proposal. As stated in the Statement of Heritage Impact Assessment, Mamre House is a State and locally listed heritage item (Aurecon, 2021a). Access to the facility would be maintained during early works and construction, however some alternative access arrangements and temporary relocation of bus stops would be required (discussed further in Section 7.1.3).

People using the facility would experience some amenity impacts in the form of noise and visual impacts. Although the facility is set back from the road corridor, there are grassed paddocks that provide views to and from the property and Mamre Road. The property's landscape, setting and historic access at the outer boundaries, as well as views from the front gardens and from the house would be impacted by the works (Aurecon, 2021). The proposal would also generate light and heavy vehicle/construction worker movements within the direct study area. This would result in noise impacts to the community facility. As stated in the Noise and Vibration Impact Assessment (SLR, 2021), the facility is expected to experience noise impacts that are noticeable and clearly audible during some daytime and evening works. Noise from night-time works would become moderately intrusive during the worst-case utilities and earthworks scenario. As mentioned in Section 6.4, the facility is used by the community for events and private functions. Impacts during construction may deter some users from the facility for the duration of construction.

#### **Erskine Park Rural Fire Brigade**

The proposal would impact the Erskine Park Rural Fire Brigade, which is located at the intersection of Luddenham Road and Mamre Road. As mentioned in the Section 7.1.3, the access to the Erskine Park Fire Brigade would be altered during construction and a new access would be constructed. Construction works associated with the upgrade of the intersection to a signalised intersection would include utility work, earthworks, pavement work and supporting infrastructure works. The fire brigade is likely to be impacted by ongoing noise impacts during construction, particularly due to the facility being operational for 24 hours/day. Noise impacts are expected to be highly intrusive due to the facility being relatively close to the construction areas. This may substantially impact firefighters and staff during rest periods, particularly if sleep disturbing works occur.

As stated in Section 7.1.3, access along Mamre Road would be maintained during construction, although some impacts to travel times may occur as a result of construction traffic and alternative traffic arrangements.

#### **Old MacDonald Childcare Centre**

Old MacDonald Childcare Centre is located on Mandalong Close and would be impacted by the proposal. The childcare centre property fronts onto Mamre Road and is about 80 metres from the intersection of Erskine Park Road and Mamre Road. The upgrade works at the intersection would result in noise and visual

impacts to the childcare centre. Noise impacts are expected to be substantial at the childcare centre, particularly if children are using the outdoor areas. During rest periods, noise impacts may result in sleep disturbance. The Noise and Vibration Impact Assessment (SLR, 2021) states that during the day, noise would be clearly audible to moderately intrusive during noisy work near the Old MacDonald Childcare Centre.

In addition, air quality impacts from dust and machinery exhausts may result in some health concerns by parents/guardians of the students at the centre. Existing access to Old MacDonald Childcare Centre would be maintained during construction, however people may experience delays on Mamre Road and Mandalong Close during partial road closures. Parents and staff accessing the facility may experience delays in accessing the childcare centre during peak pick up and drop off times in the early morning and late afternoon.

## **Socio-economic study area**

As stated in Section 6.4, in addition to the social infrastructure facilities located with the direct study area, there are facilities in the socio-economic study area and broader study area that would rely on Mamre Road for connectivity. The proposed upgrade to the intersection at Mamre Road and Banks Drive would result in some impacts to facilities within St Clair.

### **Banks Public School**

Partial road closures and detours may impact accessibility for students, parents and staff using Banks Drive to access Banks Public School. This may include delays during school pick up and drop off periods (between 8:30 and 9am in the morning and 3:00pm to 4:00pm in the afternoon) and safety concerns for students walking and cycling to school. Banks Public School may also experience noise impacts during construction due to the use of construction machinery and heavy vehicle movements. This may result in decreased amenity for school attendees and staff. Consultation prior to construction would be undertaken to mitigate any potential impacts to the school. This includes avoiding noisy construction works during exam periods and implementing traffic management controls at the Banks Drive/Mamre Road intersection to avoid safety impacts to students, staff and parents/guardians.

### **Peter Kearns Memorial Oval**

The proposal would also include upgrading the intersection at Mamre Road and Solander Drive. As such, users of the Peter Kearns Memorial Oval may be impacted by temporary partial road closures and detours. Users of the park may be required to take alternative routes if partial road closures are required. This may increase the travel time and reduce the amenity for users of the park due to its reduced accessibility. Users of the Peter Kearns Memorial Oval and the surrounding green spaces may also experience noise and visual impacts. This includes sporting teams and local residents and visitors that use the park for active and passive recreation during the week and on weekends, including the St Clair Comets Junior Rugby League Club. There are various green spaces and corridors that connect to Mamre Road from the residential areas of St Clair. This may result in changes in the behaviour of the community who may avoid recreational areas around the direct study area due to areas amenity impacts.

### **Gregory Blaxland Memorial Park and Dog Park**

The upgrade at Luddenham Road and Mamre Road would impact the facilities along Luddenham Road including the Gregory Blaxland Memorial Park and the DOGS NSW association (which includes the Bill Spilstead Complex for Canine Affairs Dog Park). Temporary road closures may increase travel time for users of these facilities, which may deter some individuals from visiting these areas. These facilities may also experience noise impacts for the duration of construction works due to their proximity to the proposal. This is likely to reduce the liveability of the direct study area, as residents may be less inclined to use the space for recreational activities.

### **Facilities on Bakers Lane**

Although located south of the direct study area and socio-economic study area, Bakers Lane provides access to a range of social infrastructure facilities. This includes schools and aged care facilities. It is likely that people using these facilities use Mamre Road for access. These facilities would be indirectly impacted by the proposal during construction, particularly during school peak periods (drop off and pick up in the



morning and evenings). Construction traffic may cause congestion and longer travel times for parents/guardians, resulting in frustration. As mentioned previously, traffic management measures would be implemented to mitigate impacts associated with construction traffic and movements including detours where required. This includes alternative pedestrian and cyclist pathways for active transport users, with lighting and signage.

**Significance of access and connectivity impacts:** The sensitivity to social infrastructure receivers to the proposal is moderate. The magnitude of the temporary changes during construction would be moderate, resulting in the significance of the impact being moderate.

### 7.1.5 Commercial operations and businesses

Businesses within and surrounding the direct study area would experience temporary impacts to amenity. This includes visual, noise and air quality impacts during construction. Business activity such as interactions with customers/clients, office and restaurant environments and the productivity of workers may be impacted during construction due to noise and vibration impacts.

Similarly, the reduction in visual and noise amenity may also result in customers being less inclined to visit businesses such as accommodation facilities, restaurants and cafés. Construction noise and activity may impact the patronage to some businesses including the KFC fast food restaurant on Banks Drive in St Clair and Blue Cattle Dog Hotel on Mamre Road. The Noise and Vibration Impact Assessment states that noisy work would be clearly audible to moderately intrusive at nearby businesses including the Blue Cattle Dog Hotel and commercial receivers to the south of the study area. The Blue Cattle Dog Hotel is an accommodation facility as well as a restaurant. The hotel would be consulted prior to the start of construction to provide notice of construction activities so that potential impacts to patrons and guests can be mitigated where possible. The presence of plant and equipment may restrict views to businesses and associated business signage. In addition, patrons of these businesses as well as the Shell/Coles Express petrol station service station on Banks Drive may be reluctant to access these businesses due to nearby construction activities and changed access arrangements. Impacts would be temporary as the construction of the proposal would be staged to mitigate impacts on the local road network. Consultation with businesses to maintain access and visibility from Mamre Road would be undertaken. Changed access arrangements would be confirmed during detailed design and outlined in a Traffic Management Plan that would be included as part of the Construction Environmental Management Plan for the proposal.

In addition, businesses in St Clair, Erskine Park and Luddenham may experience impacts to deliveries and customer access. Observations during the site visit found that there are various home-based businesses within the direct study area, socio-economic study area and broader study area. This included trade and service type businesses and fresh produce sellers. These businesses may also be impacted by changes in accessibility and connectivity, resulting in longer travel times.

There are likely to be a range of people working from home due to the current COVID-19 pandemic. It is likely that people working from home during the day would be impacted by noise impacts. Noisy works may impact people's ability to concentrate and interrupt telecommunications such as business calls and meetings. This is likely to cause frustration and concern, particularly if people have been working from home for a substantial period of time. As mentioned previously, construction may result in changes to people's habits such as avoiding the use of recreational areas during work breaks that are close to construction areas. As stated in the Noise and Vibration Impact Assessment, the highest noise levels and impacts would be experienced by front-row residential receivers to the east of Mamre Road.

**Significance of commercial operations and business impacts:** The sensitivity of businesses and commercial operations is moderate. The magnitude of the temporary changes during construction would be moderate, resulting in the significance of the impact being moderate.

### 7.1.6 Amenity and community values

Amenity often refers to the quality of life, character and elements in a community that make it a more pleasant and comfortable place to be a part of. Impacts of a proposal such as traffic, perceived air quality impacts, noise and visual impacts can affect the amenity of an area.

During construction there would likely be a reduction of amenity in the direct study area and socio-economic study area. Receivers in the direct study area would experience the most impacts to amenity. As discussed in Section 6.3, the areas surrounding the proposal include residential dwellings to the east and agricultural and open space to the west. The majority of sensitive receivers would be residential receivers, located on properties surrounding the direct study area. The highest impacts would be during construction activities that use noise intensive equipment. The Noise and Vibration Impact Assessment states that the highest impacts would be generally limited to the front-row residential receivers to the east of Mamre Road. Residential receivers which are further back or shielded from view are also predicted to be impacted during noisy work, but to a lesser degree. During works outside standard construction hours, this could result in some potential sleep disturbance or discomfort for receivers. Where possible, high noise intensive activities would not be undertaken out of standard work hours.

As mentioned in the Penrith City Council CSP, the community values the natural environment. As stated in TfNSW's *Environmental Impact Assessment Practice Note – Socio-economic Assessment (EIA-N05)* community values are those elements held as being important to quality of life and wellbeing. This includes physical elements such as parks and landscapes, and social elements, such as belonging and diversity. The proposal would require some vegetation removal for the development of the new road. This would occur on the western and the eastern sides of the proposal, within the road corridor. Concerns about air quality in response to dust generated during construction, vegetation removal and idling engines are also likely to contribute to the reduction in amenity.

The removal of vegetation and presence of construction areas would result in visual impacts to surrounding receivers. The most impacts would be experienced by dwellings in close proximity to the proposal. The presence of construction plant and equipment would also impact the visual aesthetic of the direct study area and some of the socio-economic study area. This includes road users passing construction areas of the proposal.

As stated in the Penrith CSP, the community value movement and 'getting around their city'. Construction of the proposal may temporarily impact the accessibility and connectivity for road users on Mamre Road. This may result from construction traffic and alternative traffic arrangements, which could be frustrating for local road users and people travelling through the direct study area.

**Significance of community and amenity impacts:** The sensitivity of the community to changes in amenity and values is moderate. The magnitude of the impacts during construction is moderate, resulting in the level of significance being moderate.

## 7.2 Operation

### 7.2.1 Property acquisition and adjustments

Permanent property acquisition would occur as a result of the proposal. Permanent acquisition would be required for residential properties, community land and public spaces in the road corridor as mentioned in Section 7.2.1. Acquisition of land on residential properties would not require the acquisition of residences, and residents would not be required to move. Therefore, permanent impacts of property acquisition are expected to be low. Consultation with impacted property owners/occupiers would be undertaken to mitigate impacts of property acquisition.

**Significance of property acquisition and adjustment impacts:** Based on the characteristics of property owners and occupiers, sensitivity of these stakeholders is low. The magnitude of changes during operation would be low, resulting in the significance of the impact being low.

### 7.2.2 Land use changes

Located within the Western Sydney Employment Area and near the Western Sydney Aerotropolis, the proposal would aim to support future economic and residential growth in Western Sydney. The proposal would complement land use changes within the broader study area by increasing the capacity of Mamre Road to account for future travel demand and movement. This includes the provision for a future connection at the intersection of Banks Drive and Mamre Road, to accommodate planned land use changes.



The proposal would also result in some changes in land use in the road corridor. Areas that were previously vacant or vegetated land along Mamre Road would now form part of the road footprint. This includes areas previously zoned under the Penrith LEP as:

- RE1 – Public recreation
- R2 – Low density residential
- E2 – Environmental conservation
- IN1 – General Industrial
- RU2 – Rural landscape.

Some grassed areas to the east of Mamre Road would be impacted by the noise wall, batters, culverts and swales as part of the proposal. TfNSW will continue to consult with Penrith City Council regarding council owned land and assets (including the areas classified as community land). The design for the proposal will also be refined during detailed design to minimise impacts on community land, where possible.

**Significance of land use impacts:** The sensitivity of land occupiers, owners and the community to permanent changes in land use is low. The magnitude of these changes is moderate, resulting in the level of significance being moderate-low.

### 7.2.3 Access and connectivity

#### Property access and road network

The proposal seeks to improve safety, movement and travel times on Mamre Road between the M4 Motorway and Erskine Park Road for all road users. This includes general traffic, businesses, freight operators and buses. In addition, the new signalised intersections would provide better movements for motorists wanting to access Solander Drive and Luddenham Road. The provision of the western leg approach at Mamre Road intersections with Banks Drive and Solander Drive would provide improved access for potential future parkland on the western side of the direct study area. This would improve the liveability of the direct study area and socio-economic study area, as movements on Mamre Road and the surrounding road network would be safer and more efficient. This may encourage more people to use Mamre Road, as signalised intersections would reduce turning pressure and improve traffic flow.

Access changes to private properties would occur during the operation of the proposal. This includes access changes for properties that appear to have rear access onto the Mamre Road corridor from their property.

The permanent changes to property access includes:

- Removal of existing Mamre Road access to some properties owned by the Office of Strategic Lands west of Mamre Road (including Mamre House)
- Provision of a new driveway access off the Banks Drive intersection for Mamre House and adjoining properties
- Reinstatement of the existing secondary access to Mamre House off Mamre Road, which is also used to access the St Marys Air Quality Monitoring Station
- Revised access to the Erskine Park Rural Fire Brigade site via a new driveway connecting to Old Luddenham Road
- Revised access to an existing TransGrid tower about 330 metres north of Mandalong Close.
- Closure of several unregulated rear private property accesses for pedestrians or vehicles in St Clair that currently provide access directly onto the Mamre Road corridor
- Adjustment of the kerb of the driveway on the north-east corner of the Solander Drive intersection for the new intersection arrangement and adjustment to the eastbound lane.

Changes in access could alter the vehicle movements of residents and businesses, which could impact their travel routes. This may cause efficiencies or inefficiencies depending on the direction in which people are travelling. It may also take some time to adjust to the changes in access for some properties. The Erskine

Park Rural Fire Brigade would benefit from their new access, as the slip lane would take vehicles out of the flow of traffic and intersection queuing on Luddenham Road.

There are also expected to be access impacts from the proposed change to the McIntyre Avenue and Mandalong Close intersections to be left in-left out only. For people travelling north on Mamre Road, McIntyre Avenue would be accessible by using the U-turn arrangements further north on Mamre Road at the intersections of Solander Drive and Banks Drive. People would then travel south to enter into McIntyre Avenue. For people travelling south on Mamre Road, access into Mandalong Close would require vehicles to turn left into James Erskine Drive, use the roundabout to turn around and exit James Erskine Drive turning right back on Mamre Road. People would then need to travel north and turn left into Mandalong Close. These changes in access may increase travel time and take time for residents and local community to adjust. Access to the proposed operational water quality basin near Luddenham Road for maintenance activities would be via Old Luddenham Road and would result in negligible disruption to the Erskine Park Rural Fire Brigade.

## Parking

Parking arrangements within the direct study area during operation would include:

- No parking permitted on Mamre Road, which is consistent with the existing restrictions.
- Removal of the use of the eastern side of Mamre Road as an informal parking area, as this area would become a shared user pathway.
- Removal of six informal parking spaces on Solander Drive and two informal parking spaces on McIntyre Avenue near the Mamre Road intersections as discussed in Section 7.1.3

Penrith City Council would be consulted about the permanent removal of these parking spaces. The removal of these parking spaces is expected to have minor localised impacts on people who use this part of Solander Drive and McIntyre Avenue for parking. In addition, due to the low density residential nature of St Clair, with ample off-street parking, there is little or no demand for on-street parking.

## Freight and business movements

The proposal would aim to support economic growth and productivity by providing increased road capacity for the projected traffic volumes on Mamre Road. Local businesses, as well as regional businesses that would use Mamre Road for access and connectivity would benefit from the proposal. This includes the agricultural, manufacturing and trades businesses on Mamre Road and in the socio-economic study area, as well as businesses located within Erskine Business Park at the southern end of the direct study area. The upgrade would improve the liveability of the socio-economic study area as the increased capacity would allow for better separation between heavy and light vehicles on the road network. The additional lanes on Mamre Road would mean that heavy and light vehicles would be able to use more of the road network, providing the option for slower/larger vehicles to use the left lane, reducing potential impacts to the flow of traffic. The proposal would improve road safety for heavy vehicles by reducing opposing-lane overtaking of heavy vehicles and the associated risk of head-on crashes.

## Active transport

The proposal would improve liveability and active transport facilities through the provision of pedestrian and cyclist infrastructure. New shared user pathways for pedestrians and cyclists along Mamre Road would connect to local roads and informal pedestrian pathways in St Clair to the east of Mamre Road. This would benefit the community as previous active transport connections were limited throughout the direct study area. The shared user pathways would be designed to enhance pedestrian and cyclist connectivity in the local region and to create a comfortable journey that is protected and shaded (discussed further in Section 7.2.6). By connecting to residential areas along Mamre Road, this may encourage more people in the socio-economic study area to use the space, enhancing their wellbeing through use of active transport. The provision of active transport would provide more transport choices for the community, providing them with options to connect to the broader study area.



## Public transport and school bus routes

Public transport travelling through the direct study area may experience better movement and travel times due to the increased capacity on the road network. Provision for future bus priority lanes would be located within the left turn lanes at the Banks Drive and Solander Drive intersections and on the approach side of the Erskine Park Road intersection. There would also be indented bus bays on the departure side of the Banks Drive, Solander Drive and Erskine Park Road intersections. This would improve the flow of traffic on Mamre Road by reducing queuing of traffic behind buses, and by separating public transport users from moving traffic, it would allow commuters to safely get on and off buses. This would benefit all commuters, but especially elderly commuters and less mobile commuters, including people with prams and wheelchairs. It is likely that school children travelling to Banks Drive and Bakers Lane and staff/students/parents of the Old MacDonald Childcare Centre on Mandalong Close would benefit from these improvements, due to improved travel times and efficiency of the road network.

The design has also included footpaths with sufficient width to accommodate future bus stops along Mamre Road. The existing bus stops would also be reinstated at the Banks Drive intersection to account for the new layout of the road. In an area of growth and development, the provision of additional space for future connections and services would complement future planning needs. For example, the NSW Government has an initiative for infrastructure to “support rapid bus connections and improved bus connections between the Western Sydney Airport and Penrith, Liverpool, Blacktown and Campbelltown-Macarthur” (TfNSW, 2018a). The proposal would not preclude this from happening in the future and has made provision for future bus priority, if required.

**Significance of access and connectivity impacts:** The sensitivity of most road users (both local and those travelling through the direct study area) to changes in access and connectivity is low. The magnitude of the changes during operation would be low, resulting in the significance of the impact being low. The significance of impact is likely to be higher for residents and regular users of Mandalong Close and McIntyre Avenue.

### 7.2.4 Social infrastructure

The proposal would provide road infrastructure to better access social infrastructure within the socio-economic study area. Improved movement and travel times would improve connectivity to services and social infrastructure facilities including parks, recreational areas, community facilities and educational facilities.

#### Erskine Park Rural Fire Brigade

The new Luddenham Road intersection layout would improve accessibility for the Erskine Park Rural Fire Brigade to the road network. The upgrade is also expected to improve travel times, which would assist the brigade’s emergency response time. Improved travel times and movements on Mamre Road are also expected to improve access by other emergency services in the broader study area.

#### Educational facilities including Old MacDonald Childcare Centre

Changes in access to Old MacDonald Childcare Centre may also be experienced by the community. The safe new shared user pathway may encourage people to cycle or walk to and from the centre. However, once people cross Mamre Road at the signalised intersection and travel to Mandalong Close, there is no pathway along Mandalong Close that they can continue on to access the childcare centre.

By also improving movement and travel times between the M4 Motorway and Erskine Park Road, it would improve accessibility to other social infrastructure facilities in the broader study area, including those in St Clair, Erskine Park, as well as those on Bakers Lane in Kemps Creek and along Luddenham Road. This would have positive liveability impacts on the socio-economic study area, due to the safer and more efficient environment.

The Noise and Vibration Impact Assessment has stated that noise exceedances would also be experienced by Old MacDonald Childcare Centre, Banks Public School and Gumbirra Preschool during operation. These facilities would be eligible for consideration of additional mitigation to manage noise impacts.

In addition, the Landscape and Visual Impact Assessment states that visual impacts may be experienced by staff, parents and students of the Old MacDonald Childcare Centre due to the increase in prominence of

road infrastructure. Mitigation measures would be implemented to minimise visual impacts such as the installation of plantings in accordance with a landscaping plan.

### **Mamre House**

The proposal would have adverse impacts on selected social infrastructure in the direct study area. Mamre House would be impacted by access and visual changes during the operation of the proposal. Although there are no impacts proposed on the Mamre House building, the existing driveway would be closed, and a new access would be provided from the Banks Drive intersection. The property is of heritage value to the community, with the pastoral setting of the property and link to Mamre Road being an integral aspect of its heritage significance (Aurecon, 2021a). The community may feel as though the facility has lost cultural and heritage value, potentially impacting visitation to the facility. In addition, increases in traffic noise as a result of the road corridor being closer to the facility would result in noise impacts to visitors. Visual impacts as a result of vegetation removal within the road corridor for the widened road would also impact the receivers at Mamre House. The Landscape Character and Visual Impact Assessment states that the increased amount of infrastructure would result in substantial impacts to the heritage/pastoral context of Mamre House and its surrounds. The proposal may alter the pastoral outlook, with the most impacts experienced by visitors and staff accessing the property along the rearranged driveway. Opportunities for heritage interpretation or signage would be considered to further minimise impacts to and enhance local and state heritage items in the vicinity of Mamre Road.

**Significance of social infrastructure impact:** The sensitivity of people using social infrastructure during operation of the proposal is moderate. The magnitude of the operation if the proposal on social infrastructure is moderate, resulting in a moderate impact of significance.

### **7.2.5 Commercial operations and businesses**

The proposal would provide benefits to commercial operations and businesses within and travelling through the direct study area by increasing road capacity and improving travel times. This is also expected to have beneficial effects for freight carriers and vehicles travelling to the industrial precincts in the broader study area.

The proposal may also have an indirect positive impact on tourism during the operational phase of the proposal. The improved movements, travel time and opportunities for active and public transport connectivity would improve access through the broader study area and future Western Sydney Airport. Similarly, proposed urban design elements would contribute to the liveability of the direct study area for residents and visitors.

There are also expected to be noise impacts to the Blue Cattle Dog Hotel during the operation of the proposal as a result of road traffic noise levels. Additional noise mitigation would be required to be investigated for the hotel to mitigate potential impacts to the business during operation.

**Significance of commercial operations and businesses impact:** The sensitivity of businesses during operation of the proposal is low. The magnitude of the operation if the proposal on businesses is negligible, resulting in a negligible impact of significance.

### **7.2.6 Amenity and community values**

The proposal would beneficially and adversely impact the community and the values of the community.

The proposal would also seek to improve quality of service, sustainability and liveability by providing facilities for walking, cycling and future public transport needs. The shared user pathway would include green cover (i.e. plants) and shade to protect pedestrian areas from heat. There would also be lighting, street art, the creation of 'pedestrian portals' (discussed further in the Project REF), provision of stopping points along shared paths and coloured concrete used in the footpaths. These features would enhance the shared user pathways. These inclusions would also separate out the visual impacts of the new noise walls. This would have a positive impact on the visual amenity of the socio-economic study area, as well as the wellbeing of the community through increased active transport use.



Overall, the proposal is expected to have beneficial outcomes to road users through the improvement of movement and travel times. Liveability would be improved through the safer and efficient environment provided by the proposal. The increased capacity of the road corridor would also contribute to a safer road network as traffic flow would be improved and movements would be controlled by signalised intersections.

The proposal would bring the road footprint closer to properties on the western and eastern side of Mamre Road. This would result in noise impacts to receivers on both sides of the proposal. In particular, the residential properties on the western side of the proposal would be slightly closer to the road corridor. However, most of these properties are set back from the road and are not expected to be substantially impacted. The most affected areas are expected to be in St Clair, as the proposal would bring the road closer to the properties on the eastern side of the proposal in the northern section. This includes properties closest to intersection works at Banks Drive, including the KFC fast food restaurant and Blue Cattle Dog Hotel.

The proposal would include the installation of noise walls that would be up to 4.5 metres high along the eastern side of Mamre Road adjacent to St Clair to minimise potential road traffic noise impacts during operation of the proposal. Noise walls would introduce new built elements to the landscape, which may result in visual impacts to receivers. As a built, tall structure in a semi residential and rural environment, this may reduce the amenity of the direct study area. The design of the noise walls would be confirmed during detailed design and consider opportunities to incorporate urban design features such as clear panels, colour, art and graphics to help with navigation and improve aesthetics. Clear panels would reduce shadowing and provide natural light to properties. The installation of noise walls may also result in some feelings of severance for the community, as the walls may be perceived as a barrier within the socio-economic study area. As mentioned in Section 5.2, feedback from the community has been mixed, with some residents requesting noise walls to reduce impacts of noise from traffic on Mamre Road, and others not wanting them. This may be offset by the proposal as the proposal could enhance or improve people's liveability by providing links from surrounding roads and more transport opportunities throughout the direct study area.

Vegetation removal would be required for the proposal on the eastern and western sides of Mamre Road. The road corridor would occupy areas that were previously vegetated, resulting in visual impacts to receivers. This would impact the natural setting of the socio-economic study area, which has scattered segments of dense vegetation. The Landscape Character and Visual Impact Assessment states that most impacts would be experienced where open recreational landscapes and vegetation is the dominant element in the view. This would result in a high level of sensitivity to change especially where the upgraded road infrastructure would be more extensively observed. As the proposal is located in an area that is subject to change and development in Western Sydney, maintaining vegetation would be valued by the community. Landscaping works and the proposed urban design features are expected to reduce the visual impacts associated with vegetation removal. This is discussed further in the *Mamre Road Upgrade – Stage 1 Landscape and Visual Impact Assessment*.

**Significance of community and amenity impacts:** The sensitivity of the community to changes in amenity and values is moderate. The magnitude of the impacts during construction is moderate, resulting in the level of significance being moderate.

## 7.3 Impact assessment summary

The following table provides a summary of the impact assessment by assigning a sensitivity and magnitude rating to determine overall significance.

**Table 7-1 Summary of level of significance of impact assessment**

Issue category	Impact (with mitigation)	Sensitivity	Magnitude	Level of significance
Construction impacts				
Property acquisition and adjustments	<ul style="list-style-type: none"> <li>The proposal would require partial and full acquisitions and adjustments to 41 lots (around 11.1 hectares of land). Some lots would be subject to both lease and acquisition depending on timing and requirements of the construction stages.</li> <li>All private property acquisition would be limited to strip acquisition at the front of properties. No structures would be acquired or demolished.</li> </ul>	Moderate	Moderate	Moderate
Land use	<ul style="list-style-type: none"> <li>Change in land use (temporary) for areas required for ancillary facilities and construction activities during construction. This includes areas closest to the proposal including the informal pathways along Mamre Road.</li> <li>Partial acquisitions may restrict some current land uses such as community activities at social infrastructure facilities, business and agricultural operations.</li> </ul>	Low	Low	Low
Access and connectivity	<ul style="list-style-type: none"> <li>Property access would be impacted during construction particularly on Mamre Road and connecting streets.</li> <li>Construction traffic and installation of temporary traffic controls may result in traffic delays.</li> <li>Impacts to the road network and local street parking would occur as a result of tie in works and the potential use of detours.</li> <li>Detours and contraflow arrangements may result in longer travel times for road users.</li> <li>Construction work near intersections would result in the removal of some parking spaces on McIntyre Road and Solander Drive.</li> <li>The temporary relocation of bus stops may impact public transport users, particularly the elderly and less mobile.</li> </ul>	High	Moderate	High-Moderate



Issue category	Impact (with mitigation)	Sensitivity	Magnitude	Level of significance
Social infrastructure	<ul style="list-style-type: none"> <li>■ Students and teachers of Banks Public School may hear noise during construction</li> <li>■ Mamre House, Feathered Friends wildlife sanctuary, Erskine Park Rural Fire Brigade and Old MacDonald Childcare Centre may also be subject to noise impacts during construction, with some exceedances.</li> <li>■ Access to social infrastructure in the broader study area via Mamre Road may be impacted due to increased traffic and detours around construction areas.</li> </ul>	Moderate	Moderate	Moderate
Business operations	<ul style="list-style-type: none"> <li>■ There would be noise impacts at accommodation facilities close to the proposal, including Blue Cattle Dog Hotel on Mamre Road near the Banks Drive intersection.</li> <li>■ Potential impacts on business patronage as a result of construction activities within the direct study area. Businesses would include the KFC fast food restaurant and Blue Cattle Dog Hotel on Banks Drive in St Clair.</li> <li>■ Freight drivers and heavy vehicles with time-crucial deliveries may be impacted by traffic delays and detours around construction sites.</li> </ul>	Moderate	Moderate	Moderate
Amenity and community values	<ul style="list-style-type: none"> <li>■ Sensitive receivers near the proposal would experience the most impacts to amenity in the form of noise, visual and air quality impacts.</li> <li>■ Potential sleep disturbance and higher impacts during noisy works particularly for residences closest to Mamre Road that border the road corridor on the eastern side.</li> <li>■ Vegetation removal and the installation of noise walls for the upgrade would reduce the visual amenity of the direct study area, with dwellings in closest proximity to the proposal being impacted most.</li> <li>■ Potential impacts to the community's use of public recreational greenspace, impacting liveability and wellbeing.</li> </ul>	Moderate	Moderate	Moderate
<b>Operational impacts</b>				
Property	<ul style="list-style-type: none"> <li>■ Permanent property acquisition would require some properties to be closer to road corridor as a result of the upgrade (widened road).</li> <li>■ Changes to property access along the proposal including Mamre House and Erskine Park Rural Fire Brigade.</li> </ul>	Low	Low	Moderate-low

Issue category	Impact (with mitigation)	Sensitivity	Magnitude	Level of significance
Land use	<ul style="list-style-type: none"> <li>■ Some changes in land use in the road corridor, including areas that were previously vacant or vegetated land alongside Mamre Road would now form part of the road footprint. Most of these areas are SP2 – Infrastructure on the <i>Penrith Local Environment Plan (LEP) 2010</i>, therefore the proposal would be consistent with this zone.</li> </ul>	Low	Low	Low
Access and connectivity	<ul style="list-style-type: none"> <li>■ Improved movement and travel for local and regional road users as a result of the proposal.</li> <li>■ Access to some local facilities and infrastructure would be safer and more efficient. However, some facilities including those accessed from Mandalong Close (Old MacDonald Childcare Centre) and McIntyre Avenue may be impacted by the new intersection arrangements (left-in left-out).</li> <li>■ New active transport opportunities due the provision of shared user pathways and connections to other parts of the socio-economic study area.</li> <li>■ Impacts to parking areas close to intersections, which would need to be removed to allow space for the new intersection layout (at Solander Drive and McIntyre Avenue).</li> <li>■ Better public transport opportunities through the future provision of bus priority lanes and indented bus bays.</li> </ul>	Low	Low	Low
Social infrastructure	<ul style="list-style-type: none"> <li>■ The proposal is expected to provide improved accessibility to the Erskine Park Rural Fire Brigade.</li> <li>■ Banks Public School, Old MacDonald Childcare Centre and Gumbirra Preschool, St Clair are likely to experience some noise impacts during the operation of the proposal.</li> <li>■ There would be substantial changes in access to Mamre House, with the inclusion of a new driveway to Mamre House connecting to the Banks Drive intersection.</li> <li>■ There are expected to visual impacts to Mamre House and Old MacDonald Childcare Centre as a result of new infrastructure and vegetation removal.</li> </ul>	Moderate	Moderate	Moderate



Issue category	Impact (with mitigation)	Sensitivity	Magnitude	Level of significance
Business operations	<ul style="list-style-type: none"> <li>■ The proposal would provide benefits to commercial operations and businesses within and travelling through the direct study area through increased road capacity and improved travel times.</li> <li>■ The KFC fast food restaurant on Banks Drive in St Clair and Blue Cattle Dog Hotel on Mamre Road would be impacted by noise and visual impacts.</li> <li>■ The proposal may also have an indirect positive impact on tourism improving travel movements through the broader study area to places like the Blue Mountains National Park and future Western Sydney Airport.</li> </ul>	Low	Negligible	Negligible
Amenity and community values	<ul style="list-style-type: none"> <li>■ Increase in road traffic noise levels close to receivers, however the provision of noise walls along the eastern side of Mamre Road at St Clair and Erskine Park is expected to reduce noise impacts.</li> <li>■ Proposal would result in visual impacts within the direct study area as a result of vegetation removal and the installation of noise walls. This is expected to be offset by the urban design features and landscaping works to be undertaken following construction.</li> <li>■ The proposal would improve liveability through the provision of the shared user pathway, with associated urban design features</li> <li>■ The proposal would have beneficial outcomes for road users through the improvement of movement, travel times and safety.</li> </ul>	Moderate	Moderate	Moderate

## 8 Cumulative impacts

The proposal is located in Western Sydney which is an area of transformation and growth. There are a range of projects occurring throughout Western Sydney, with those most closely linked to this proposal discussed in the following section.

### 8.1 Major projects and development

#### Western Sydney Airport

The Australian Government is currently constructing the Western Sydney International (Nancy-Bird Walton) Airport. The airport site is located in Badgerys Creek, in the Liverpool LGA south of the proposal. Elizabeth Drive forms the northern border of the airport site, which covers an area of around 1,780 hectares (Commonwealth of Australia, 2016). Scheduled to open in 2026, the new airport would be developed in stages, with the first stage of development including a single 3,700 metre runway and aviation support facilities for around 10 million passengers annually, as well as freight traffic (Commonwealth of Australia, 2016).

The primary need for the new airport is to provide additional aviation capacity in Sydney, however the new airport would also provide economic benefits to the growing Western Sydney area. The development of the new airport is expected to act as a driver for growth in investment, infrastructure and employment opportunities in Western Sydney (Commonwealth of Australia, 2016). The airport would provide an estimated 8,730 direct jobs during operations at the airport in the early 2030s and an estimated 61,500 direct jobs at the airport by 2063 (Commonwealth of Australia, 2016). As stated in the *Western Sydney Airport Environmental Impact Statement 2016*, job creation and the release of employment and housing land in the region is also expected to occur in alignment with other development and infrastructure plans (Commonwealth of Australia, 2016).

The proposed M12 Motorway is expected to alleviate most of the operational traffic associated with the new airport site, with most of the local road network including Mamre Road disconnected from the future motorway.

#### Western Sydney Employment Area

The Western Sydney Employment Area (WSEA) was developed to provide businesses with land for industrial and employment purposes, close to major road transport corridors (DPIE, n.d.a). The *WSEA State Environment Planning Policy* (SEPP) was released in 2009 by the NSW Government.

The area is divided into precincts to facilitate development and planning in each section within the WSEA. Mamre Road Precinct is one of the precincts within the WSEA, which provides 850 hectares of industrial land for future employment opportunities. The Mamre Road Precinct is expected to be able to accommodate about 5,200 construction jobs and 17,000 ongoing jobs when fully developed (DPIE, n.d.b.). In June 2020, the precinct was rezoned which also resulted in the protection of around 95 hectares of land for environmental conservation and open space and a site for a potential Western Sydney freight intermodal terminal (IMT (DPIE, n.d.)).



## Altis Warehouse and Logistics Hub

Altis Property Partners propose to construct and operate a warehouse and logistics hub in Orchard Hills, in the south-western section of the direct study area and socio-economic study area. The hub is expected to assist the storage and distribution process and create employment opportunities. Determined in June 2020, the project is currently undergoing a modification under the DPIE's approval system to subdivide Lot 16 of the facility into two new allotments. Mamre Road would be the primary route used to access the facility.

## M12 Motorway project

TfNSW propose to construct the M12 Motorway between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham. The new motorway would provide direct access to the Western Sydney Airport and Sydney's motorway network (TfNSW, 2019). Construction for the project is expected to commence in early 2022 and be completed before the opening of the new airport. The M12 Motorway would not connect to Mamre Road, but would pass over Mamre Road. Mamre Road would connect to Elizabeth Drive to access the Airport.

## Upper South Creek Advanced Recycling Centre

Sydney Water propose to build and operate a wastewater treatment plant to collect wastewater from the South West and Western Sydney Aerotropolis Growth Area. Located in Kemps Creek, north of Elizabeth Drive, the centre would include a wastewater treatment plant with new pipeline infrastructure connecting across the following areas:

- from the Water Recycling Centre to the Nepean River, to release excess treated water
- new infrastructure from the Water Recycling Centre to South Creek, to release excess treated water and wet weather flows
- new pipeline extension from the new Nepean River pipeline to the Warragamba River for environmental flows
- new pipeline from the Water Recycling Centre to Sydney Water's existing wastewater system to discharge brine.

Construction is expected to commence in mid-2022 (Sydney Water, 2020). The project would not span across Mamre Road; however, it is likely that Mamre Road would be used during construction for access from the M4 Motorway and for access to the facility during operation.

## Other projects near the proposal

A search of the NSW Department of Planning, Industry and Environment Major Projects Register was undertaken on 27th January 2021. The search was inclusive of major projects determined from two years ago (27th January 2019). The search did not indicate any major projects being undertaken within the direct study area or socio-economic area other than the Altis Warehouse and Logistics Hub development discussed above. Other major projects in the broader study area were identified, which included:

- metal and minerals manufacturing developments
- warehouse or distribution centre developments
- waste collection, treatment and disposal developments
- new infrastructure development

A representative list of major projects is provided in Appendix B.

## 8.2 Cumulative impacts

Cumulative impacts can occur when the impacts of a proposal add to other past, present or future proposals/developments (TfNSW, 2020). Collectively cumulative impacts have the potential to result in substantial changes to the socio-economic environment of communities (TfNSW, 2020).

### 8.2.1 Cumulative impacts during construction

The proposal has the potential to result in cumulative impacts for local commuters, residents and businesses due to surrounding land use and development. This cumulative impact analysis relates to an expected timing of construction impacts being experienced between early 2022 to 2025, where there is potential for construction activities to occur concurrently with other developments and projects.

#### Traffic

Impacts could occur in the form of cumulative construction traffic from multiple projects placing additional pressure on road networks, which could lead to congestion and frustration for motorists. This includes vehicles travelling to and from surrounding construction areas such as:

- further south of the proposal on Mamre Road past Erskine Park Road and near Elizabeth Drive to access the Upper South Creek Advanced Water Recycling Centre, M12 Motorway and Western Sydney Airport
- off Luddenham Road to access the Western Sydney Airport and other parts of the WSEA.

Additional light and heavy vehicles required for multiple projects could result in substantial traffic delays during standard and out of hours work periods.

#### Amenity

Construction amenity impacts from multiple projects resulting in increased traffic noise, visual impacts and perceived air quality impacts may also occur. When projects occur concurrently, this could result in an increased magnitude of impacts for receivers. The projects closest to the proposal include the Altis Warehouse and Logistics Hub and the Upper South Creek Advanced Water Recycling Centre. Should cumulative impacts associated with amenity occur, they are likely to be experienced by residents, businesses and people travelling through the direct study area, including people accessing social infrastructure on Bakers Lane.

In addition, if projects are planned sequentially (i.e. one after the other) this could result in both consultation and construction fatigue for local communities and stakeholders. Impacts could result in feelings of constant disruption and disturbance within communities, altering the amenity of suburbs and the enjoyment of areas. As mentioned previously, this can have flow on effects impacting the health and wellbeing, having behaviours and people's use of community facilities, areas and methods of travel.

**Significance of cumulative impacts:** The sensitivity of the community to cumulative impacts is moderate due to the potential cumulative impacts associated with concurrent projects occurring near the proposal. The magnitude of the impacts during construction is moderate, resulting in the level of significance being moderate.

### 8.2.2 Cumulative impacts during operation

Cumulative impacts could occur during operation if other projects commence in the vicinity of the proposal. This includes other future stages of the Western Sydney Airport development and the potential future development to the west of the proposal (more information is provided in the REF).

The design development of the proposal has captured the expected traffic generation from surrounding developments together with population growth and associated traffic demands. The proposal would support future economic and residential growth in Western Sydney by increasing the capacity of Mamre Road and improving road safety and movement.

Substantial negative cumulative impacts associated with the proposal during operation are not anticipated.



**Significance of cumulative impacts:** The sensitivity of the community to cumulative impacts is negligible. The magnitude of the impacts during operation is negligible, resulting in the level of significance being negligible.

## 9 Mitigation measures

The following section provides the management measures that would be implemented during the construction and operation of the proposal.

Additional mitigation measures specific to noise and vibration impacts, landscape and visual impacts, heritage impacts and traffic and transport impacts, which would help minimise socio-economic impacts, are provided in the Project REF. These mitigation measures would include preparation and implementation of management plans, community consultation, and adherence with TfNSW standard management procedures.

**Table 9-1 Mitigation measures**

Aspect	Mitigation measure	Responsibility	Timing
Communication Plan	<p>A Communication Plan (CP) would be prepared and implemented as part of the CEMP to help provide timely and accurate information to the community during construction. The CP would include (as a minimum):</p> <ul style="list-style-type: none"> <li>■ Mechanisms to provide details and timing of proposed activities to affected residents, including changed traffic and access conditions</li> <li>■ Contact name and number for complaints.</li> </ul> <p>The CP would be prepared in accordance with the <i>Community Involvement and Communications Resource Manual</i> (RTA, 2008).</p>	TfNSW	Pre-construction
Community consultation	TfNSW will continue to consult with the community until the completion of the proposal. Discussions including the nature and timing of construction works would be required to identify relevant noise, visual, air quality and access mitigation measures for residents, stakeholders and people using the proposal.	TfNSW	Pre-construction/ construction
Property	TfNSW will continue to consult with affected property owners and land occupiers until the completion of the proposal. Discussions including the nature and timing of construction works would be required to identify relevant mitigation measures for noise, traffic, access and visual impacts.	TfNSW	Pre-construction/ construction
Property acquisition	<p>Land acquisition will occur in accordance with the <i>Land Acquisition (Just Terms Compensation) Act 1991</i>.</p> <p>TfNSW will continue to consult with Penrith City Council regarding council owned land and assets. The design for the proposal will also be refined during detailed design to minimise impacts on community land, where possible.</p>	TfNSW	Pre-construction
Amenity	Mitigation measures required to manage amenity impacts for the proposal (including those related to noise and vibration, visual changes, heritage and traffic) are included in the Project REF.	TfNSW	Pre-construction / construction
Changes in access	Temporary and permanent changes in access will be discussed with impacted land occupiers prior to commencement of construction and during construction activities should arrangements change. This includes access onto Mamre Road from properties on the eastern side of the proposal.	TfNSW	Pre-construction / construction



Aspect	Mitigation measure	Responsibility	Timing
Business consultation	TfNSW will consult with businesses about construction activities and any changes in access required for the proposal, including freight and industrial businesses that use Erskine Business Park.	TfNSW	Pre-construction/ construction
Social infrastructure	TfNSW will consult with facilities near the proposal including Banks Public School, Catholic Care Mamre House, Feathered Friends, Erskine Park Rural Fire Brigade, Old MacDonald Childcare Centre, Peter Kearns Memorial Oval and DOGS NSW regarding construction activities.	TfNSW	Pre-construction/ construction
Relocation of bus stops during construction	Public transport users will be notified in advance of any changes to bus stop locations through signage at the existing bus stop. Temporary bus stops would have similar features to existing bus stops, including shelter and rest areas for less mobile and elderly people. Adequate way finding signage would be installed. Consultation with the relevant bus authorities would be undertaken (including school buses) to mitigate potential impacts to bus routes and times.	TfNSW	Pre-construction /construction
Traffic management for all road users, including pedestrians and cyclists	Traffic management measures required for the proposal are included in the Traffic and Transport Assessment.  Alternative routes for active transport users will be clearly identified by signage and the use of traffic controllers where required. This includes areas close to Banks Drive and Bakers Lane where school children may be travelling to and from school.	TfNSW	Pre-construction /construction
Removal of parking	Penrith City Council will be consulted about the permanent removal of parking spaces on Solander Drive and McIntyre Avenue.	TfNSW	Detailed design

# 10 Conclusion

This SEIA has assessed the potential socio-economic impacts associated with the proposed Mamre Road Upgrade Stage 1. The assessment included describing the existing environment, identifying potential impacts, incorporating contributions from other specialist studies and the adoption of mitigation measures. In particular, this assessment analyses the way the proposal would impact the liveability of the socio-economic study area.

The proposal is expected to have some adverse impacts during the construction phase, including:

- Property acquisition and adjustments to properties along Mamre Road. Some temporary leasing of areas for ancillary facilities would also be required.
- Traffic delays from reduced speed limits around construction sites, temporary contraflow traffic arrangements and detours
- Temporary disruption to pedestrian and cycle access near to construction works resulting in longer travel distances to access pathways
- Access and parking interruptions for residents and businesses within the direct study area and socio-economic study area, including visual and noise impacts
- Community amenity and liveability impacts in regard to access, visual impacts of construction areas and vegetation removal and the noise environment.

During the operation of the project key socio-economic impacts include:

- Permanent access changes to private properties, government owned properties and social infrastructure facilities including Mamre House and the Erskine Park Rural Fire Brigade
- Land use changes in the direct study area which would form part of the road footprint
- Improved travel times and movement, providing better access to social infrastructure facilities and the broader study area
- Improved active transport options through the provision of a new shared user pathway
- The future provision of bus priority lanes and indented bus bays would improve the flow of traffic and may have a positive impact on public transport usage
- Noise and visual impacts to surrounding residential receivers and some social infrastructure facilities
- Impacts to community values as a result of vegetation loss required for the proposal.

Mitigation measures have been included in this assessment to avoid and minimise potential impacts. With implementation of these mitigation measures, the proposal will have short and longer term socio-economic and liveability impacts. Specific safeguards have been developed to avoid and minimise the identified potential impacts.



# 11 References

- ABS ASGS (2019) Population, Household and Implied Dwelling Projections by Greater Sydney Region and Regional NSW
- Commonwealth of Australia (2016) Western Sydney Airport Environmental Impact Statement. Accessed from: <https://www.westernsydneyairport.gov.au/sites/default/files/WSA-EIS-Volume-1-Background.pdf>
- Commonwealth of Australia (2018) Western Sydney City Deal. Accessed from: <https://www.infrastructure.gov.au/cities/city-deals/western-sydney/files/western-sydney-city-deal.pdf>
- Department of Employment, Skills, Small and Family Business (2019) Industry Employment Projections 2019 Report <https://lmip.gov.au/default.aspx?LMIP%2FGainInsights%2FEmploymentProjections>
- DPIE (n.d.b) Mamre Road Precinct. Accessed from: <https://www.planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Western-Sydney-Employment-Area/Mamre-Road-Precinct>
- DPIE (n.d.a) Overview of the Western Sydney Employment Area. Accessed from: <https://www.planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Western-Sydney-Employment-Area/Overview-of-the-Western-Sydney-Employment-Area>
- DPIE (2019) Population Projections Factsheet. Accessed from: <https://www.planning.nsw.gov.au/-/media/Files/DPE/Factsheets-and-faqs/Research-and-demography/Population-projections/2019-Penrith.pdf>
- DPIE (2020) The Mamre Road Precinct Draft Development Control Plan, Accessed from: [https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub\\_pdf/00+-+Planning+Portal+Exhibitions/Draft+Mamre+Road+Precinct+Development+Control+Plan.pdf](https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/00+-+Planning+Portal+Exhibitions/Draft+Mamre+Road+Precinct+Development+Control+Plan.pdf)
- DOGS NSW (n.d) <https://www.dogsnsw.org.au/>
- Economy id (2016) Value of Agriculture. Accessed from: <https://economy.id.com.au/penrith/value-of-agriculture?BMID=20>
- Economy id (2019) Penrith City Tourism visitor summary. Accessed from: <https://economy.id.com.au/penrith/tourism-visitor-summary?BMID=20>
- Feathered Friends (n.d) <http://featheredfriends.com.au/the-sanctuary/>
- Greater Sydney Commission (2018a) Greater Sydney Region Plan: A metropolis of three cities connecting people. Accessed from: <https://www.greater.sydney/metropolis-of-three-cities/introduction>
- Greater Sydney Commission (2018b) Our Greater Sydney 2056 – Western City District Plan – connecting communities. Accessed from [https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/western-district-plan-0618.pdf?8n3LXsR7w.By33lfBBDvVY5sv2Le\\_OOj](https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/western-district-plan-0618.pdf?8n3LXsR7w.By33lfBBDvVY5sv2Le_OOj)
- Infrastructure Australia (2020) Infrastructure Priority List. Accessed from: [https://www.infrastructureaustralia.gov.au/sites/default/files/2020-08/FINAL\\_Mid-year%202020%20IPL\\_low\\_res.pdf](https://www.infrastructureaustralia.gov.au/sites/default/files/2020-08/FINAL_Mid-year%202020%20IPL_low_res.pdf)
- Infrastructure NSW (2018) Building Momentum – SIS 2018 – 2038. Accessed from: [https://insw-sis.visualise.today/documents/INSW\\_2018SIS\\_BuildingMomentum.pdf](https://insw-sis.visualise.today/documents/INSW_2018SIS_BuildingMomentum.pdf)
- NSW Government (2020) Western Sydney Aerotropolis Plan
- Penrith City Council (2017) Penrith Community Strategic Plan 2017. Accessed from: [https://www.penrithcity.nsw.gov.au/images/documents/council/our-organisation/Community\\_Plan.pdf](https://www.penrithcity.nsw.gov.au/images/documents/council/our-organisation/Community_Plan.pdf)
- Penrith City Council (2019) Community Engagement Strategy 2019. Accessed from: [https://www.penrithcity.nsw.gov.au/images/News/communityengagementstrategy\\_and\\_communityparticipation\\_plan\\_2020.pdf](https://www.penrithcity.nsw.gov.au/images/News/communityengagementstrategy_and_communityparticipation_plan_2020.pdf)

Penrith City Council (2020) Penrith Local Strategic Planning Statement. Accessed from:

<https://www.yoursaypenrith.com.au/penrith-LSPS>

Profile id (2016) New South Wales Birthplace. Accessed from:

<https://profile.id.com.au/australia/birthplace?WebID=100>

Roads and Maritime Services Cycleway Finder (2020) Accessed from:

[https://www.rms.nsw.gov.au/maps/cycleway\\_finder](https://www.rms.nsw.gov.au/maps/cycleway_finder)

Stafford Group (2015) Penrith Destination Management Plan. Accessed from:

<https://www.dssn.com.au/app/uploads/2018/07/Penrith-Destination-Management-Plan-DMP.pdf>

Sydney Water (2020) Scoping Report | Upper South Creek Advanced Water Recycling Centre Scoping Report. Accessed from:

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PDA-8604239%2120200724T062814.929%20GMT>

TfNSW (2011) NSW 2021: A plan to make NSW number one. Accessed from:

[https://www.ipc.nsw.gov.au/sites/default/files/file\\_manager/NSW2021\\_WEBVERSION.pdf](https://www.ipc.nsw.gov.au/sites/default/files/file_manager/NSW2021_WEBVERSION.pdf)

TfNSW (2012) NSW Road Safety Strategy 2012 – 2021. Accessed from:

[https://roadsafety.transport.nsw.gov.au/downloads/road\\_safety\\_strategy.pdf](https://roadsafety.transport.nsw.gov.au/downloads/road_safety_strategy.pdf)

TfNSW (2018a) Future Transport Strategy 2056. Accessed from:

[https://future.transport.nsw.gov.au/sites/default/files/media/documents/2018/Future\\_Transport\\_2056\\_Strategy.pdf](https://future.transport.nsw.gov.au/sites/default/files/media/documents/2018/Future_Transport_2056_Strategy.pdf)

TfNSW (2018b) Freight and Ports Plan 2018-2023. Accessed from:

<https://www.transport.nsw.gov.au/projects/strategy/nsw-freight-and-ports-plan>

TfNSW (2018c) Tourism and Transport Plan. Accessed from:

<https://future.transport.nsw.gov.au/sites/default/files/media/documents/2019/Tourism%20and%20Transport%20Plan.pdf>

TfNSW (2018d) Road Safety Plan. Accessed from

<https://towardszero.nsw.gov.au/sites/default/files/2018-02/road-safety-plan.pdf>

TfNSW (2019) M12 Motorway Environmental Impact Statement. Accessed from:

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-9364%2120191004T003651.405%20GMT>

TfNSW (2020a) EIA-N05 Environmental Impact Assessment Practice Note – Socio-economic Assessment

TfNSW (2020b) Mamre Road Upgrade Community and Stakeholder Engagement Plan

Western Sydney Parklands Trust (2020). About Us. Accessed from:

<https://www.westernsydneyparklands.com.au/about-us/>



# Appendix A – Strategic planning

This section provides a detailed overview of State and local strategic planning relevant to the proposal, summarised in Chapter 4 of the main report.

## National and State (NSW) strategic planning

### NSW Road Safety Strategy 2012-2021

The *NSW Road Safety Strategy 2012-2021* (RSS) was published in December 2012 by TfNSW. The strategy provides a framework for the direction of road safety in NSW with the primary objective to reduce road trauma. Context associated with road crashes across NSW are highlighted in the strategy to identify areas of opportunity for improvement. The data in the strategy indicates that major cities in NSW had the highest young driver serious casualties and pedestrian serious casualties between 2008 and 2010. Major cities also had a highest incidence of serious casualties across NSW between 2008 and 2010. However, two-thirds of fatalities were identified to occur in country areas in NSW, which had a fatality rate of more than four times than that of metropolitan areas. Risk taking behaviour, age and gender also contribute to understanding the context of crashes.

The RSS focuses on a 'safe system approach' which has an end goal of no death or serious injury occurring on the road transport network, known as 'working towards vision zero'. Challenges and initiatives are explored in the RSS, the key initiatives being:

- Safer roads
- Safer vehicles
- Safer road users, including children and young people, pedestrians, bicycle riders, motorcyclists,
- Impaired road users, which refers to people affected by alcohol, drugs, fatigue or distraction
- Safer speeds
- Safer heavy vehicle operation
- Road safety for Aboriginal communities
- Post-crash response and trauma treatment.

The proposal aligns with the road safety initiatives identified in the RSS. The strategy states that the ongoing development and upgrade of the NSW road network is essential to improving road safety. The investment in road infrastructure and development of safety programs are important for reaching safety targets.

Safety is highly valued across communities, as their perceptions about safety and their views of present and future conditions can change behaviours and movements. The proposal would include the upgrade of Mamre Road to improve safe and efficient travel movements between the M4 Motorway and Erskine Park for all road users. The provision of a safer corridor is expected to improve the quality of service of Mamre Road, but also liveability within the study area.

### NSW Premier's Priorities

The NSW Premier's Priorities were developed with the goal to enhance the quality of life of the people in NSW. The priorities are:

- a strong economy
- highest quality education
- well-connected communities with quality local environments
- putting customer at the centre of everything we do
- breaking the cycle of disadvantage.

Through the establishment of these priorities the NSW Government strives to improve liveability across communities. The priority to have “well connected community with quality local environments” aligns closely with the proposal objectives to improve movement, travel times and the quality of service on Mamre Road. The proposal would also seek to improve liveability by providing facilities for walking and cycling within the socio-economic study area. Liveability would also be improved through the urban design and visual aspects that the proposal would implement within the direct study area. Urban design and visual aspects could enhance the direct study area’s appeal, encouraging walking and cycling behaviours within the community. More information about the visual and urban design impacts of the direct study area provided in Section 7.

## **Greater Sydney Region Plan: A Metropolis of three cities – connecting people**

The Greater Sydney Commission released the updated *Greater Sydney Region Plan (GSRP): A Metropolis of three cities – connecting people* in June 2018. The GSRP highlights the opportunities, challenges and vision for each of the three cities discussed in the plan. The three cities that make up the Greater Sydney Region are defined in the plan as:

- The established Eastern Harbour City – building on its recognised economic strength and addressing liveability and sustainability.
- The developing Central River City – investing in a wide variety of infrastructure and services and improving amenity.
- The emerging Western Parkland City – establishing the framework for the development and success of an emerging new city.

The plan also details the importance of liveability, defining liveability as the quality of life that residents enjoy in their neighbourhoods, workplaces and cities (Greater Sydney Commission, 2018a). The need to maintain, improve and plan for changes in liveability contributes to productivity, sustainability and also the social wellbeing and cohesion of a community (Greater Sydney Commission, 2018a).

Defined as a framework for liveability, productivity and sustainability, the plan provides ten directions and a series of objectives to meet outcomes. Of the directions provided in the plan, the two most aligned with the proposal are:

- A city supported by infrastructure - Infrastructure supporting new developments
- A well-connected city - Developing a more accessible and walkable city.

The proposal would aim to improve the quality of service, sustainability and liveability by providing facilities for walking, cycling and future public transport needs. The new shared path along the eastern side of Mamre Road and provision for a future shared path on the western side would provide connectivity throughout the socio-economic study area. In addition, the reinstatement of bus stops with provision for additional bus stops and bus priority in the future would also provide more efficient transport options for commuters in the socio-economic study area. The proposal would improve liveability by providing transport options for the socio-economic study area, providing residents and the community with a sense of connectedness and accessibility.

## **Our Greater Sydney 2056 – Western City District Plan – connecting communities**

*Our Greater Sydney 2056 – Western City District Plan – connecting communities* is a supplementary plan to the GSRP, which focuses on the Western Parkland City. This plan discusses the current and future vision for transport planning Western Sydney, stating that in association with the *Western Sydney Infrastructure Plan* and *Western Sydney Growth Roads Program*, new and upgraded road infrastructure will aim to meet traffic demand associated with surrounding development. The importance of walking and cycling connections that can be used by a range of people is also discussed in the plan. The plan promotes the need to provide services and social infrastructure that meets people’s changing needs as well as promote a healthy lifestyle and contribute to liveability (Greater Sydney Commission, 2018b). It is important to plan for the varying needs of the community, providing options that can be used by people with varying abilities, needs and demographic profiles. This aligns with the proposal which would provide upgraded road infrastructure and also walking and cycling provisions along Mamre Road.



## Western Sydney City Deal

The *Western Sydney City Deal* specifies a series of commitments made by the partnership between the Australian Government, NSW Government, and local governments for the Western City. The commitment areas of the plan include, connectivity, jobs, skills and education, liveability and environment, planning and housing and implementation and governance. The *Western Parkland City Liveability Program* is mentioned in the plan amongst other strategies to improve and maintain liveability. The proposal would also seek to improve liveability through the upgrade of Mamre Road, provision of active transport and improvement of visual and urban design within the direct study area.

## Infrastructure Priority List

Infrastructure Australia released the Update to the *February 2020 Infrastructure Priority List* in August 2020. The Infrastructure Priority List (IPL) is a list of nationally significant infrastructure needs across Australia, which guides infrastructure investments for governments and industries (Infrastructure Australia 2020).

Although the plan does not specifically reference the upgrade of Mamre Road, it identifies other projects that link to Mamre Road within the broader study area. This includes the upgrade of the M12 Motorway which would connect to the Western Sydney Airport and the surrounding road network, including Mamre Road. The development of the M12 Motorway and the Western Sydney Airport are identified as high priority projects in NSW. In addition, the upgrade of the M4 Motorway between Parramatta and Lapstone in Western Sydney is also identified as a high priority project. Three out of the four high priority projects identified in the IPL are focused on providing connectivity and improving capacity in Western Sydney. The proposal is expected to complement these high priority projects through improved travel times and capacity on Mamre Road. The proposal would aim to support economic growth and productivity by providing road capacity for projected traffic volumes on Mamre Road from surrounding areas and new infrastructure developments.

## Future Transport Strategy 2056

The *Future Transport Strategy 2056* provides a 40-year strategy for regional NSW and Greater Sydney. The Strategy is supported by a range of other plans (discussed below) and identifies a vision for transport provision in NSW. Transport is defined as 'an enabler of economic and social activity and contributes to long term economic, social and environmental outcomes' (TfNSW, 2018a). There are six outcomes included in the Strategy, which are shown in Figure 11-1.

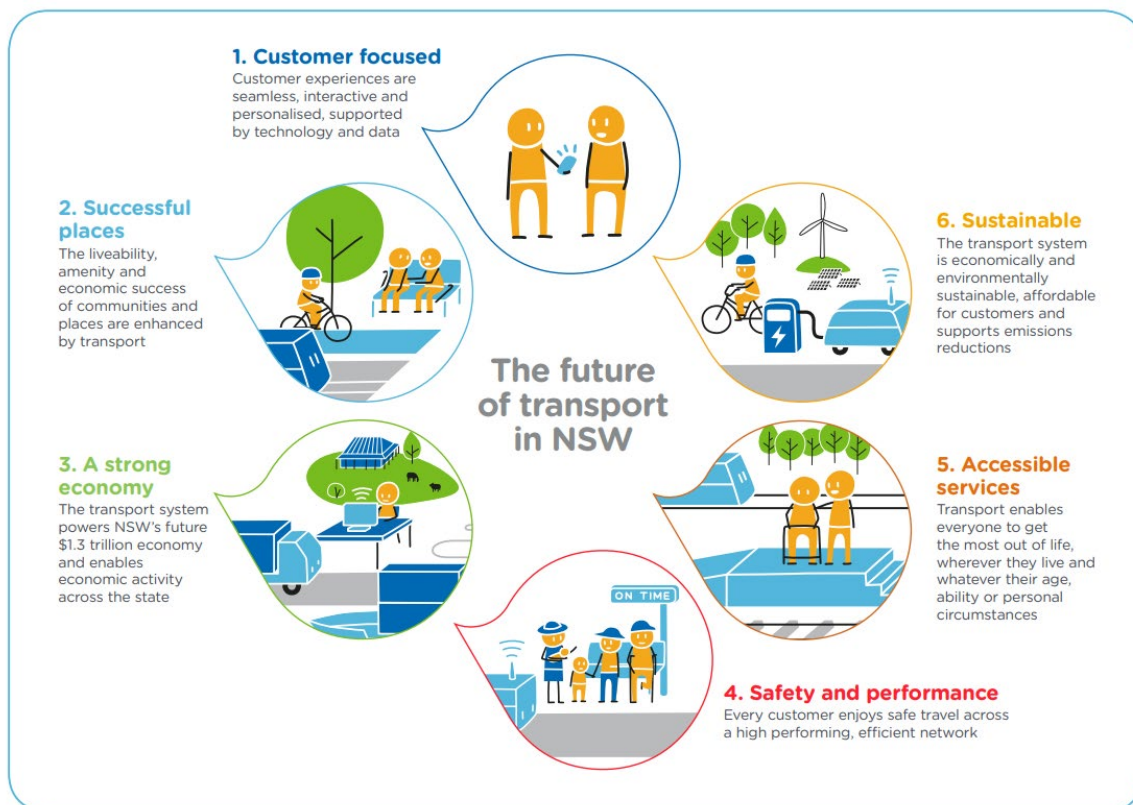


Figure 11-1 Future Transport's six state-wide outcomes (source: Future Transport Strategy (TfNSW, 2018a))

Of the outcomes of the plan, the proposal is most closely aligned with the need to develop successful places and establish safe travel across high performing, efficient networks. The Strategy promotes the need to activate places through the movement and place framework. The movement and place framework seeks to support safe efficient and reliable travel across the road network while enhancing liveability and amenity. The need to encourage active travel and public transport is also explored in the Strategy. These concepts align with the objective of the proposal, to improve quality of service, sustainability and liveability through the provision of active transport and public transport needs. The provision of facilities for walking & cycling and future public transport needs would seek to improve liveability within the direct study area and socio-economic study area. This could also provide opportunities for the broader study area, connecting to other networks and improving liveability through connectedness between communities.

In the Strategy, safety and performance is also investigated with a focus on reducing fatalities and incidents on the NSW road network. This includes developing and upgrading roads using design principles, implementing new technology and smart infrastructure and separating transport modes to reduce safety risks and efficiency impacts. The proposal would seek to improve safety along the Mamre Road corridor by providing increased capacity and options for active transport.

## Freight and Ports Plan 2018-2023

The *Freight and Ports Plan 2018-2023* was developed to provide a framework for investment for the freight industry, local and State governments. The Plan is focused on economic growth, efficiency, connectivity and access, capacity, safety and sustainability. The need for investment in to further upgrade road infrastructure to accommodate safer and more productive higher productivity vehicles is discussed in the plan. This includes the identification of network constraints and the prioritisation of network improvements to support access (TfNSW, 2018b). Western Sydney is discussed in the plan with reference to the Western Sydney Airport and Western Sydney Employment Area. Mamre Road would provide access to the Western Sydney Airport and forms part of the Western Sydney Employment area (discussed further in Section 8.1). The upgrade of Mamre Road would seek to support the economic growth and productivity of these areas by providing road capacity for projected traffic volumes.

The management of freight throughout urban areas is also explored in the Plan. The Plan discusses the balance between efficiency of freight and the liveability of communities (TfNSW, 2018b). Planning for freight



is focused on maintaining liveability as the freight network grows and increases in capacity. The aligns with the objectives of the plan as the upgrade of Mamre Road would improve quality of service, sustainability and liveability.

## Tourism and Transport Plan

The *Tourism and Transport Plan* is a supplementary plan to the Future Transport Strategy 2056. The Tourism and Transport Plan focuses on the NSW targets for the visitor economy and achieving customer outcomes. The four customer outcomes presented in the plan are:

- Enhancing the visitor experience
- Greater access to more of NSW
- Making transport the attraction
- A seamless experience.

Based on these outcomes, the plan provides initiatives and opportunities to achieve the targets for tourism across NSW. The plan discusses the Western Sydney Airport as part of the Western Sydney City Deal. The Western Sydney Airport is described as a catalyst for a new aerotropolis city, with surrounding attractive features and facilities. The plan acknowledges that importance of ground transport connections within Western Sydney to achieve the most benefits within the Western Sydney Aerotropolis. Although not specifically mentioned in the plan, Mamre Road forms part of the local road network near the Western Sydney Airport, providing connection from the M4 Motorway. The proposal would provide road capacity for projected traffic volumes and improve travel times, which would benefit the Western Sydney Aerotropolis. This is expected to provide benefits to all road users, including visitors travelling in Western Sydney.

## Building Momentum - State Infrastructure Strategy 2018 – 2038

The *State Infrastructure Strategy* (SIS) (2018) is a 20-year infrastructure plan for the NSW government. It makes recommendations for each of NSW's key infrastructure sectors and provides information about place-based approaches to infrastructure planning. The SIS discusses predicted rising congestion on parts of the road network which will increase travel times and affect the reliability of the system (Infrastructure NSW, 2018). The plan discusses the need to unlock the capacity of current assets by addressing existing issues in the road network.

The SIS states that infrastructure for each city within Greater Sydney must be planned to optimise its liveability, productivity and sustainability (Infrastructure NSW, 2018). The Western Parkland City is discussed in relation to improving connectivity between main centres, including Penrith, Liverpool, Campbelltown and the Western Sydney Airport. By using the road network more efficiently, this can complement other major infrastructure and provide links to growth areas. Of the directions of the Strategy that aligns most closely with the proposal is for the Western Parkland City to:

- prioritise intercity road connections to support access and provide a north-south mass transit connection
- provide a freight network to support a growing city
- protect and enhance the South Creek Catchment.

The proposal aligns with these directions in the SIS, through the upgrade of Mamre Road to support growth and provide road capacity for road users, including freight operators. The proposal would improve liveability and through the provision of active transport and improvement of urban design and visual aspects within the direct study area.

## Road Safety Plan – Towards Zero

TfNSW released the *Road Safety Plan - Towards Zero* in February 2018. The Plan was released by the NSW Government to improve road safety, with a state priority of reducing road fatalities by 30 per cent by 2021 (TfNSW, 2018d). The plan outlines priority areas for action, with the most relevant to the proposal is 'liveable and safe urban communities'. As NSW is increasing in growth and economic activity, more

movement on the local road network occurs (TfNSW, 2018d). The challenge to keep urban places liveable and safe is acknowledged in the plan, with the initiatives to achieve this including installation of traffic calming infrastructure, investigation into options to accelerate safety upgrades at intersections through the Safer Roads Program, improve pedestrian and bicycle safety and integrate bicycle network programs to facilitate safer movements (TfNSW, 2018d). The proposal would align with the initiatives in the Plan, as the objectives of the proposal include the need to maintain a safe and efficient environment for all road users and improve the quality of service and sustainability whilst improving liveability.

## Western Sydney Aerotropolis Plan

In September 2020, the NSW Government and Western Sydney Planning Partnership released the *Western Sydney Aerotropolis Plan* (superseding the *draft Western Sydney Aerotropolis Plan*). The plan establishes the vision for the Western Sydney Aerotropolis, identifying the benefits of population and economic growth opportunities for employment, skill development and productivity (NSW Government, 2020).

The Western Sydney Aerotropolis comprises an area of 11,200, within the Penrith and Liverpool LGAs. With the primary feature of the Aerotropolis being the Western Sydney International (Nancy-Bird Walton) Airport, the Aerotropolis is comprised of ten precincts.

Mamre Road is one of the seven initial precincts considered in the Western Sydney Aerotropolis Plan. Although the precinct is not within the direct study area or socio-economic study area, the Mamre Road Precinct would interact with the proposal as part of the broader study area. The focus for the initial precincts is productivity, sustainability, infrastructure and collaboration and liveability. The liveability objectives of the Plan are:

- Diverse, affordable, healthy, resilient and well-located housing
- Social and cultural infrastructure that strengthens communities
- Great places that celebrate local character and bring people together.

In addition, vision and land uses for each precinct is discussed in the plan. The Mamre Road Precinct is identified as part of the Western Sydney Employment Area, most suitable for industrial warehousing and logistics. This is discussed further in Section 8.1 of this report.

The plan acknowledges the Future Transport Strategy 2056, and the need to make streets and places of the Western Parkland City will be smarter, healthier and more focused on people (NSW Government, 2020). The requirement for effective and reliable movement that accommodates freight whilst also protecting local amenity is discussed in the plan.

The proposal aligns with the Western Sydney Aerotropolis Plan through the balance of providing upgraded infrastructure to support productivity and economic growth, whilst improving sustainability and liveability through the provision of walking, cycling and future transport needs. The urban design and visual aspects that would be included in the proposal would contribute to the amenity objectives of the Western Sydney Aerotropolis Plan.

## Western Sydney Infrastructure Plan

The *Western Sydney Infrastructure Plan* (WSIP) was released in February 2018 by the Australian Government and NSW Government to deliver major infrastructure upgrades. The focus of the WSIP is to upgrade major road and transport linkages in Western Sydney while boosting the local economy and liveability (TfNSW, 2018). Improvements in road transport capacity for future demand as a result of residential and employment increases in Western Sydney and the WSEA is the key driver of the WSIP. Although the proposal is not specifically mentioned in the plan, other projects that feature Mamre Road connections are discussed in the various report cards issued since the release of the WSIP.

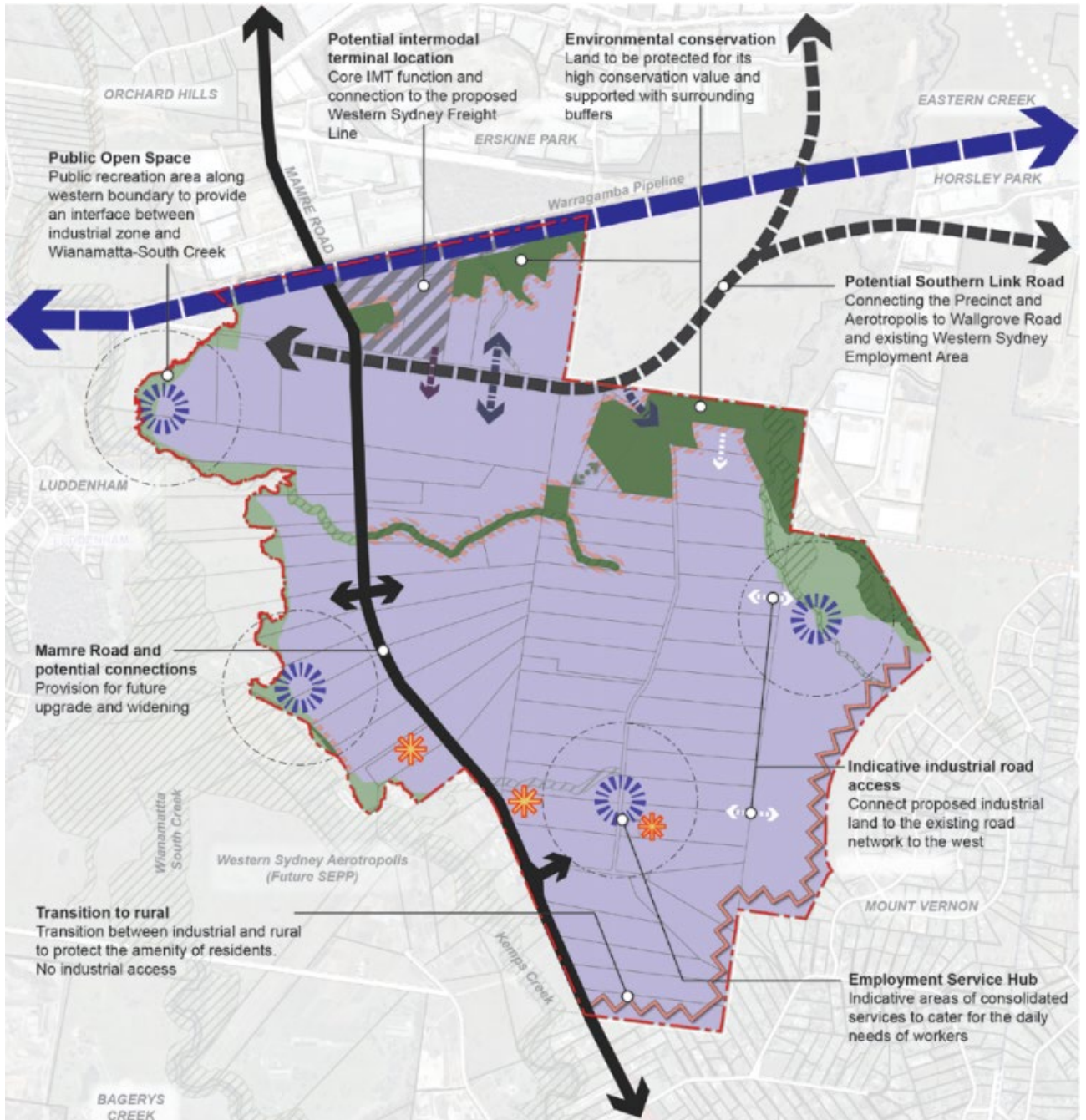


## Mamre Road Precinct Development Control Plan 2020

In 2020, the Mamre Road Precinct DCP was prepared to form the basis of development proposed to be undertaken within the Mamre Road Precinct. The DCP provides details about the following proposed features:

- major road network and potential access points in and out of the precinct
- a potential intermodal terminal and associated integrated freight network to connect with the proposed Western Sydney Freight Line
- proposed open space and drainage networks.
- locations of critical infrastructure, including potential intermodal terminal and Warragamba Pipeline.
- future land uses including employment lands, utilities, service hubs and recreational spaces.
- areas requiring protection or special consideration because of environmental, heritage or amenity values.

Although this precinct does not cover the proposal, Mamre Road is identified as the main movement corridor in the precinct, with provisions for future upgrades, widening and also connections to surrounding areas. The DCP discusses the improved access that the precinct would provide including connectivity to other adjoining employment precincts, the M12 Motorway and an upgraded Elizabeth Drive. The proposed features of the Mamre Road Precinct would provide benefits to residents, communities and stakeholders through better access within and connecting to the precinct, complementing future development and protecting areas of community value.



**Structure Plan**

- |  |                                      |  |  |  |   |
|--|--------------------------------------|--|--|--|---|
|  | Precinct boundary                    |  | Mamre Road and potential connections     |  | Transition to rural                                     |
|  | Cadastral boundaries                 |  | Potential Southern Link Road             |  | Transition to Environmental Conservation                |
|  | Industrial                           |  | Potential road access                    |  | Local heritage items                                    |
|  | Environmental conservation           |  | Potential freight connection to precinct |  | Indicative employment service hub (with 400m catchment) |
|  | Open space                           |  | Indicative road access                   |  | Opportunity for ecological corridor                     |
|  | Potential intermodal terminal        |  | Indicative riparian buffers              |  |   |
|  | Proposed Western Sydney Freight Line |  |  |  |   |

Figure 11-2 Mamre Road Precinct Structure Plan (within the WSEA) (source: DPIE, 2020)



## Local strategic planning

The local strategic planning documents summarised in the following section provide insight into the Penrith City Council's strategies and objectives for the future of the LGA.

### Penrith City Council Local Strategic Planning Statement

In March 2020, the Penrith City Council released the *Local Strategic Planning Statement (LSPS) – Planning for a Brighter Future*. The LSPS was developed to identify the needs of the Penrith LGA over the next 20 years, highlighting the characteristics that make the Penrith LGA unique. As a guide for the economic, social and environmental land use planning requirements, the LSPS promotes the need to be connected, healthy, innovative and balanced as a community. Of the priorities listed in the statement, there are two that relate most closely to the proposal. These include:

- Planning Priority 1: Align development, growth and infrastructure
- Planning Priority 10: Provide a safe, connected and efficient local network supported by frequent public transport options

The LSPS states that the Council would continue to work with the NSW Government to improve main roads and seek upgrades to our major corridors. The plan also discusses the importance of maximising opportunities during the growth of the Western Sydney, developing connections and shaping infrastructure to meet growth and capacity increases (Penrith City Council, 2020). The proposal would seek to support economic growth and productivity by providing increased road capacity that would be sufficient for the projected traffic volumes on Mamre Road. The proposal would also aim to provide a safe and efficient environment for all road users, through the road upgrade works and establishment of a new shared user pathway in the direct study area. The LSPS classifies Penrith as a 'city of transformation' (Penrith City Council, 2020). Balanced growth planning for services, infrastructure and facilities to support the growing population, as well as visitors is discussed. Whilst the changing nature of the Western Sydney region is acknowledged, there is also a sense of community appreciation for the mix of urban, rural and natural environments that comprise the LGA. The proposal would connect varying land use areas, providing the community with improved travel opportunities.

### Penrith Community Strategic Plan 2017

The *Penrith Community Strategic Plan (CSP) 2031* was released in 2017 by Penrith City Council. The Penrith CSP provides a ten-year plan for the Penrith LGA to achieve their goals, developed by the community and the Penrith City Council Panel. The CSP was developed to determine the priorities for Penrith and how service and infrastructure needs are achieved (Penrith City Council, 2017). The outcome that resonates most closely to the proposal is the focus the CSP has on getting around the city. The need to improve roads, public transport, parking and pathways to reduce traffic congestion, enhance liveability and provide safe and efficient access to all areas is emphasised in the CSP.

The plan states that job growth is not occurring at the same time as population growth, therefore residents need to travel longer distances to find work, having flow on effects to travel time and costs (Penrith City Council, 2017). As an area of concern for the community, providing transport options and network improvements can improve the wellbeing of the employed population travelling for work. In addition, traffic congestion is also acknowledged as something that impacts the environment and community wellbeing (Penrith City Council, 2017). Improving travel times and road capacity would improve community wellbeing as transport opportunities for active and public transport and a more efficient road network may result in benefits for the working population of Penrith.

At a metropolitan level, chronic stresses are explained in the CSP. This includes 'unequal access to services and infrastructure' and 'lack of transport diversity/inequitable access to multimodal transport'. These stresses can be directly linked to the proposal and the community needs associated with the existing congestion and limited transport options on Mamre Road. The proposal would address the need to provide a more accessible network, through the improvement of Mamre Road, active and public transport. This would

enhance liveability through the establishment of a safer and more efficient road, with more transport options for the community. More information about community values and goals is provided in Section 6.6.



# Appendix B – Quantitative data

Table 11-1 ABS data from the Census of population and housing 2016

Indicator	Source	Mulgoa - Luddenham - Orchard Hills		St Marys - North St Marys		St Clair		Erskine Park		Horsley Park - Kemps Creek		Broader study area		Penrith LGA		Greater Sydney	
		No	%	No	%	No	%	No	%	No	%	Number	%	No	%	No	%
<b>Population</b>																	
Total persons	G01	9,543	-	16,072	-	19,897	-	6,436	-	4,422	-	56,370	-	196,006	-	482,399	-
Proportion of people aged 14 years or younger	G01	2,081	21.8%	3,316	20.6%	4,145	20.8%	1,237	19.2%	758	17.1%	11,537	20.5%	41,284	21.1%	900,229	18.7%
Proportion of people aged 65 years or older	G01	1,160	12.2%	2,172	13.5%	1,783	9.0%	433	6.7%	815	18.4%	6,363	11.3%	22,911	11.7%	672,561	13.9%
Aboriginal and Torres Strait Islander population	G07	172	1.8%	841	5.2%	589	3.0%	142	2.2%	49	1.1%	1,793	3.2%	7,741	3.9%	70,135	1.5%
Language other than English spoken at home	13f	1,574	16.5%	4,138	25.7%	4,478	22.5%	1,392	21.6%	1,673	37.8%	13,255	23.5%	33,167	16.9%	1,725,912	35.8%
Overseas born	G09ef	1,746	18.3%	4,619	28.7%	5,117	25.7%	1,540	23.9%	1,168	26.4%	14,190	25.2%	42,381	21.6%	1,773,483	36.8%
People with need for assistance	G18	306	3.2%	1,224	7.6%	850	4.3%	222	3.4%	271	6.1%	2,873	5.1%	10,152	5.2%	236,139	4.9%
<b>Housing and households</b>																	
Total private dwellings	G32	2,974	-	6,080	-	6,281	-	1,961	-	1,239	-	18,535	-	67,638	-	175,992	-
Separate house	G32	2,577	86.7%	3,579	58.9%	5,988	95.3%	1,880	95.9%	1,141	92.1%	15,165	81.8%	51,865	76.7%	924,225	52.5%
Terrace/flat/other etc.	G32	134	4.5%	1,957	32.2%	48	0.8%	22	1.2%	8	0.6%	2,169	11.7%	11,547	17.1%	692,600	39.4%
Total households	G31	2,750	-	5,558	-	6,040	-	1,904	-	1,162	-	17,414	-	63,667	-	162,387	-
Family households	G31	2,373	86.3%	3,782	68.0%	5,231	86.6%	1,692	88.9%	1,002	86.2%	14,080	80.9%	49,777	78.2%	1,195,662	73.6%
Non-family households	G31	372	13.5%	1,779	32.0%	804	13.3%	213	11.2%	162	16.2%	3,330	23.7%	13,884	21.8%	428,213	26.4%
Average household size	QS	3.2	-	2.6	-	3.1	-	3.3	-	3.4	-	-	-	2.9	-	2.8	-
Housing tenure - mortgage	QS - Average monthly mortgage repayments	\$2,500	-	\$1,705	-	\$1,985	-	\$2,000	-	\$2,500	-	-	-	\$2,000	-	\$2,167	-
Housing tenure - rent	QS - Average weekly rent	\$480	-	\$340	-	\$410	-	\$410	-	\$370	-	-	-	\$370	-	\$440	-
Households with no vehicles	G30	37	1.3%	681	12.3%	152	2.5%	26	1.4%	25	2.2%	921	5.3%	3,869	6.1%	179,500	11.1%

Indicator	Source	Mulgoa - Luddenham - Orchard Hills		St Marys - North St Marys		St Clair		Erskine Park		Horsley Park - Kemps Creek		Broader study area		Penrith LGA		Greater Sydney	
Average motor vehicles per dwelling	QS	2.5	-	1.5	-	2.2	-	2.4	-	3	-	-	-	2	-	1.7	-
<b>Travel</b>																	
Travel to work by car (as driver - one method)	G59	3,395	68.3%	3973	62.5%	7,236	70.6%	2659	72.5%	1303	63.5%	18,566	68.0%	63,086	66.5%	1197269	52.7%
Travel to work by train (one method)	G59	133	2.7%	553	8.7%	398	3.9%	137	3.7%	32	1.6%	1,253	4.6%	5,354	5.6%	247051	10.9%
Travel to work by bus (one method)	G59	12	0.2%	78	1.2%	100	1.0%	19	0.5%	11	0.5%	220	0.8%	770	0.8%	125503	5.5%
Travel to work by ferry (one method)	G59	0	0.0%	3	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.0%	12	0.0%	7467	0.3%
Travel to work by tram (one method)	G59	0	0.0%	3	0.0%	3	0.0%	0	0.0%	0	0.0%	6	0.0%	12	0.0%	2617	0.1%
Travel to work by car (as passenger - one method)	G59	202	4.1%	423	6.7%	515	5.0%	204	5.6%	74	3.6%	1,418	5.2%	4,666	4.9%	89273	3.9%
Travel to work by taxi (one method)	G59	3	0.1%	13	0.2%	10	0.1%	8	0.2%	0	0.0%	34	0.1%	96	0.1%	5301	0.2%
Travel to work by truck (one method)	G59	159	3.2%	77	1.2%	168	1.6%	51	1.4%	136	6.6%	591	2.2%	1,721	1.8%	19540	0.9%
Travel to work by Motorbike/scooter (one method)	G59	11	0.2%	39	0.6%	42	0.4%	8	0.2%	3	0.1%	103	0.4%	434	0.5%	14890	0.7%
Travel to work by bicycle (one method)	G59	3	0.1%	20	0.3%	12	0.1%	4	0.1%	0	0.0%	39	0.1%	185	0.2%	16471	0.7%
Other (one method)	G59	28	0.6%	25	0.4%	49	0.5%	15	0.4%	16	0.8%	133	0.5%	369	0.4%	11778	0.5%
Travel to work by walking only (one method)	G59	79	1.6%	128	2.0%	59	0.6%	17	0.5%	45	2.2%	328	1.2%	1,307	1.4%	91577	4.0%
Two methods	G59	176	3.5%	337	5.3%	504	4.9%	162	4.4%	51	2.5%	1,230	4.5%	4,557	4.8%	131666	5.8%
Three methods	G59	18	0.4%	49	0.8%	76	0.7%	17	0.5%	9	0.4%	169	0.6%	588	0.6%	15943	0.7%
Worked at home	G59	315	6.3%	99	1.6%	240	2.3%	84	2.3%	178	8.7%	916	3.4%	2,888	3.0%	98906	4.4%



Indicator	Source	Mulgoa - Luddenham - Orchard Hills		St Marys - North St Marys		St Clair		Erskine Park		Horsley Park - Kemps Creek		Broader study area		Penrith LGA		Greater Sydney	
<b>Employment and industry</b>																	
Labour force	G43b	5,169	-	7,057	-	10,795	-	3853	-	2134	-	29,008	-	100,604	-	2418899	-
Median household income (\$)	QS	\$2,235	-	\$1,171	-	\$1,859	-	\$2,104	-	\$1,976	-	-	-	\$1,658	-	\$1,750	-
Unemployment (total unemployed)	G43b (unemployed looking for work - labour force status)	196	3.8%	701	9.9%	550	5.1%	185	4.8%	79	3.7%	1,711	5.9%	5,743	5.7%	146187	6.0%
<b>Industry of employment</b>																	
Construction	G53 (top 5)	785	15.8%	621	9.8%	1227	12.0%	437	11.9%	399.0	19.4%	-	-	11,045	11.6%	186332	8.2%
Retail trade	G53 (top 5)	459	9.2%	668	10.5%	1145	11.2%	352	9.6%	188.0	9.2%	-	-	10,009	10.6%	211890	9.3%
Health Care and Social Assistance	G53 (top 5)	451	9.1%	763	12.0%	1021	10.0%	393	10.7%	-	-	-	-	10,386	10.9%	263351	11.6%
Manufacturing	G53 (top 5)	367	7.4%	590	9.3%	903	8.8%	351	9.6%	137.0	6.7%	-	-	7,484	7.9%		
Education and training	G53 (top 5)	359	7.2%	-	-	-	-	-	-	124.0	6.0%	-	-	6,840	7.2%	182770	8.0%
Transport, Postal and Warehousing	G53 (top 5)	-	-	573	9.0%	923	9.0%	304	8.3%	129.0	6.3%	-	-	-	-	-	-
Professional, Scientific and Technical Services	G53 (top 5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	223708	9.8%
<b>Place of residence</b>																	
Same address as 5 years ago as in 2016	G42	4,208	47.5%	7,365	49.9%	12,581	68.0%	4374	72.3%	2886.0	68.5%	31,414	59.9%	103,287	56.9%	2402160	53.2%
Different address 5 years ago as in 2016	G42	4,079	46.0%	5,945	40.2%	4,958	26.8%	1426	23.6%	960.0	22.8%	17,368	33.1%	65,880	36.3%	1817909	40.3%
<b>Education and voluntary work</b>																	
Highest level of education % of persons aged 15 or over no longer attending school who completed year 12 or equivalent	G16	3,294	46.5%	4,881	39.7%	6,985	46.6%	2369	48.4%	1370.0	39.2%	18,899	44.2%	65,992	44.6%	2334316	62.1%
Voluntary work	G19	1,199	16.1%	1,320	10.4%	1,965	12.5%	642	12.4%	421.0	11.5%	5,547	12.4%	20,644	13.3%	653910	16.7%

Table 11-2 ABS EIFA scores in 2016

Area	Score
Mulgoa - Luddenham - Orchard Hills	1077
St Marys - North St Marys	876
St Clair	998
Erskine Park	1031
Horsley Park - Kemps Creek.	1031
Penrith LGA	988

Table 11-3 Greater Sydney Commission Districts Projections (NSW 2019)

GSC Districts & Regional NSW	2016	2021	2026	2031	2036	2041	Population increase between 2016 and 2041	Percentage change between 2016 and 2041
Central City District	971,140	1,176,311	1,367,403	1,506,054	1,619,315	1,739,788	768,648	79.1
Eastern City District	1,030,609	1,126,259	1,205,215	1,284,438	1,344,658	1,388,071	357,462	34.7
North District	888,902	953,822	1,008,695	1,053,066	1,092,885	1,124,192	235,290	26.5
South District	741,484	797,032	854,783	901,059	924,018	972,908	231,424	31.2
Western City District	1,056,120	1,199,187	1,310,725	1,467,354	1,680,844	1,878,133	822,013	77.8
Regional NSW	3,044,603	3,162,367	3,264,189	3,348,596	3,416,245	3,469,605	425,002	14.0
<b>NSW Total</b>	<b>7,732,858</b>	<b>8,414,978</b>	<b>9,011,010</b>	<b>9,560,567</b>	<b>10,077,964</b>	<b>10,572,696</b>	<b>2,839,838</b>	<b>36.7</b>

Table 11-4 International tourism in the Penrith LGA and Greater Sydney between 2014/2015 to 2018/2019

Main reason for trip	Penrith LGA				Greater Sydney			
	Visitors	Visitor nights	%	Average length of stay (days)	Visitors	Visitor nights	%	Average length of stay (days)
Visiting friends and relatives	69031	1506847	55.6	21.8	5147315	96809710	24.7	18.8
Holiday	31908	592794	25.7	18.6	10654927	100966973	51.2	9.5
Business	11199	71102	9	6.3	2299079	17646069	11	7.7
Education	3532	357392	2.8	101.2	1308695	111239102	6.3	85
Employment	--	--	--	--	649443	44855593	3.1	69.1
Other reason	--	--	--	--	756071	14600555	3.6	19.3
<b>Total</b>	<b>124048</b>	<b>3216219</b>	<b>100</b>	<b>25.9</b>	<b>20815532</b>	<b>386118007</b>	<b>100</b>	<b>18.5</b>

Source: Tourism Research Australia, Unpublished data from the International Visitor Survey 2018/19. Note: "--" represents unavailable data or data that has been suppressed due to a sample size of 40 or less. A 5-year aggregate is used here to minimize the figures which need to be suppressed, but sample sizes may still be too small for some categories.



## Appendix C – Major projects and development

A search of the DPIE major projects register was undertaken on 27<sup>th</sup> January 2020 to identify major projects near the proposal. The following table provides a representation of the major projects located within the broader study area.

Project name	ID	Location	Type	Status	Description
Altis Warehouse and Logistics Hub	SSD-7173	Orchard Hills	State Significant Development	Determination (24/06/2020)	Subdivision of existing Lot 16 into two new allotments.
Oakdale West Estate Stage 2 Development	SSD-10397	Kemps Creek	State Significant Development	Determination (09/04/2020)	Oakdale West Estate Stage 2 Development for the construction and operation of a warehouse and distribution centre with associated office space, car parking, internal roads, landscaping and services
Oakdale West Estate	SSD-7348	Kemps Creek	State Significant Development	Determination (13/09/2019)	Staged development of the Oakdale West Estate for a warehousing and distribution hub including a Concept Proposal and Stage 1 Development Application comprising estate-wide earthworks, infrastructure and services and construction of warehouse.
Kemps Creek Warehouse, Logistics and Industrial Facilities Hub	SSD-9522	657-769 Mamre Road, Kemps Creek	State Significant Development	Response to Submissions	Development of a warehouse, logistics and industrial facilities hub.
M12 Motorway	SSI-9364	Between M7 Motorway at Cecil Hills and The Northern Road at Luddenham	State Significant Infrastructure	Response to Submissions	A new dual-carriageway motorway connecting the M7 Motorway, the Western Sydney Airport and The Northern Road.
New STEM School Sydney Science Park Luddenham	SSD-9289	Luddenham	State Significant Development	Preparation of EIS	Secondary School accommodating approximately 1, 140 students within the "First Community" precinct of Sydney Science Park.
Upper South Creek Advanced Water Recycling Centre	SSI-8619189	Multiple locations – main facility located in Kemps Creek	State Significant Infrastructure	Prepare EIS	Concept and Stage 1 development application for an Advanced Water Recycling Centre to provide wastewater services and recycled water for the Aerotropolis and South West Growth Areas and associated pipelines.
ESR Kemps Creek Logistics Park	SSD-9138102	Kemps Creek	State Significant Development	Preparation of EIS	Concept proposal of 8 warehouse buildings across 7 lots, internal road layouts and infrastructure and Stage 1 development comprising demolition, vegetation removal, bulk earthworks, infrastructure, construction, fit-out and operation of a warehouse.

Project name	ID	Location	Type	Status	Description
200 Aldington Road Industrial Estate	SSD-10479	Kemps Creek	State Significant Development	Response to submissions	Staged development including a Concept Proposal and Stage 1 Development Application comprising estate-wide earthworks, infrastructure and services, construction, fit-out and operation of Stage 1 warehouse building.

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