

# 7. Assessment of key issues

## 7.4 Socio-economic, land use and property

This section provides a summary of the potential socio-economic, land use and property impacts that may be generated by construction and operation of the project and presents a proposed approach to the management of these impacts. **Table 7-69** outlines the SEARs that relate to socio-economic, land use and property, and identifies where they were addressed in this EIS. The full assessment of socio-economic, land use and property impacts is provided in **Appendix H**.

Table 7-69 SEARs (socio-economic, land use and property)

Secretary's requirement	Where addressed in this EIS
9. Socio-economic, land use and property	
1. The Proponent must assess social and economic impacts in accordance with the current guidelines.	The policy and planning setting, including current guidelines, is presented in <b>Section 7.4.1</b>  The assessment of social and economic impacts in the context of this setting is presented in <b>Section 7.4.4</b>
2. The Proponent must assess impacts from construction and operation on potentially affected properties, businesses, recreational users and land and water users (eg the Western Sydney Parklands and Wylde Mountain Bike Trail), including property acquisitions/adjustments, access, amenity and relevant statutory rights.	Assessment of impacts from construction and operation is presented in <b>Section 7.4.4</b>
3. The Proponent must address the planning objectives for the Western Sydney Airport Growth Area (WSAGA) <sup>1</sup>	The planning objectives for WSAGA (now known as Western Sydney Aerotropolis) and how the project addresses them are discussed in <b>Section 3.1.5</b> .
4. The Proponent must assess the impacts of the M7/M12 interchange design on fragmentation of the Western Sydney Parklands.	Impacts on fragmentation of the Western Sydney Parklands are presented in <b>Section 7.4.4</b>
5. The Proponent must assess the impacts on the Wylde Mountain Bike Trail, and consider options for replacing impacted sections, or the entire Wylde Mountain Bike Trail.	Assessment of impacts on the Wylde Mountain Bike Trail, and options for replacement, are presented in <b>Section 7.4.4</b>
6. Where the project may impact on significant mineral resources, the proponent must assess the impact of the project on these resources, including:	Impacts on operating mines, extractive impacts and resources are presented in <b>Section 7.4.4</b>
a. any operating mines, extractive industries or known mineral or petroleum resources;	
b. exploration activities in the vicinity of the proposed development; and	Impacts on exploration activities are presented in <b>Section 7.4.4</b>
c. access for future exploration in the area.	Impacts on future exploration are presented in <b>Section 7.4.4</b>

Secretary's requirement	Where addressed in this EIS
19. Health and safety	
1. The Proponent must assess the potential health impacts of the project, in accordance with the current guidelines.	<p>The policy and planning setting, including current guidelines, is presented in <b>Section 7.4.1</b> and <b>Section 8.3.1</b></p> <p>Impacts on community values, including community health and wellbeing, are presented in <b>Section 7.4.4</b>. Further discussion of health impacts is presented in <b>Section 8.3.4</b></p> <p>Other health and safety impacts are discussed throughout <b>Section 8.3</b></p>
2. The assessment must: f. discuss how, in the broader social and economic context of the project, the project will minimise negative health impacts while maximising the health benefits.	<p><b>Section 7.4.3</b> discusses the social and economic context of the project, including community health and wellbeing</p> <p>Additional detail regarding negative health impacts and health benefits are discussed in <b>Section 8.3.4</b> and <b>Section 8.3.5</b></p>

Note: 1 = The Western Sydney Airport Growth Area (WSAGA) is now known as the Western Sydney Aerotropolis

## 7.4.1 Policy and planning setting

In addition to the NSW and Australian strategic planning and policy framework presented in **Section 3.1**, the following Commonwealth, State and local government policies and plans are relevant to the socio-economic, land use and property assessment:

- The Australian Government's Smart Cities Plan (Department of Infrastructure, Regional Development and Cities, 2018a)
- The Western Sydney City Deal, signed in March 2018
- State Environmental Planning Policy (Sydney Region Growth Centres) 2006
- Aboriginal Participation in Construction Policy (NSW Government, 2018b)
- 2016-2026 Fairfield City Plan – Our Home, Our City, Our Future (Fairfield Council, 2016)
- Our Home, Liverpool 2027 (Liverpool City Council, 2017)
- Penrith Community Plan 2017 (Penrith City Council, 2017).

Further detail on the above policies and plans, and how they apply to project is provided in Chapter 2 of **Appendix H**.

## 7.4.2 Assessment methodology

The socio-economic, land use and property assessment was developed in accordance with the Roads and Maritime Environmental Impact Assessment Practice Note N05 – Socio-economic Assessment and the SEARs for the project. Key steps in the assessment included:

- Scoping the likely range of potential socio-economic, land use and property issues, considering:
  - Social and economic assessments carried out for other road and transport infrastructure projects in NSW and elsewhere
  - Literature relating to existing socio-economic values, land use and property in the study area (see section below)
  - Outcomes of consultation carried out for the project. Consultation also included a survey of local business owners/managers and a survey of shoppers conducted to gather information on business activity near the project, as presented in Section 3.8.2 and Annexure A of **Appendix H**
- Identifying communities potentially affected by the project's construction and operation and establishing appropriate study area/s
- Describing existing socio-economic, land use and property characteristics, conditions and values in the study area to provide a baseline from which potential impacts and benefits of the project can be assessed
- Identifying, assessing and evaluating potential impacts and benefits to socio-economic values, land use and property from the project's construction and operation
- Identifying measures to avoid, manage or mitigate negative impacts and potential benefits.

Further detail on the assessment methodology is provided below and in Chapter 3 of **Appendix H**.

### **Study area**

Primary and secondary study areas (see **Figure 7-51**) were identified for this assessment based on the consideration of those communities that may experience impacts from the location and operation of the project, construction activities and changes to movement patterns for residents, workers and visitors.

The primary study area comprises communities adjoining the project and includes communities likely to experience the greatest impacts from the project's location, construction and operation. The secondary study area comprises regional communities that may experience benefits and impacts mainly associated with changes to movement patterns. The primary study areas were based on Australian Bureau of Statistics (ABS) Statistical Area Level 2 (SA2) geographies. And the secondary, overlapping, study area is based on LGAs.

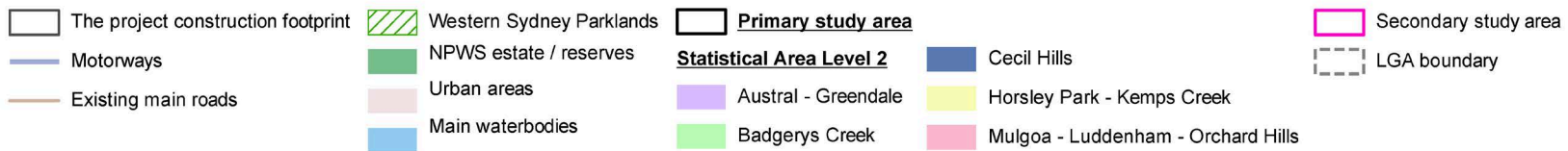
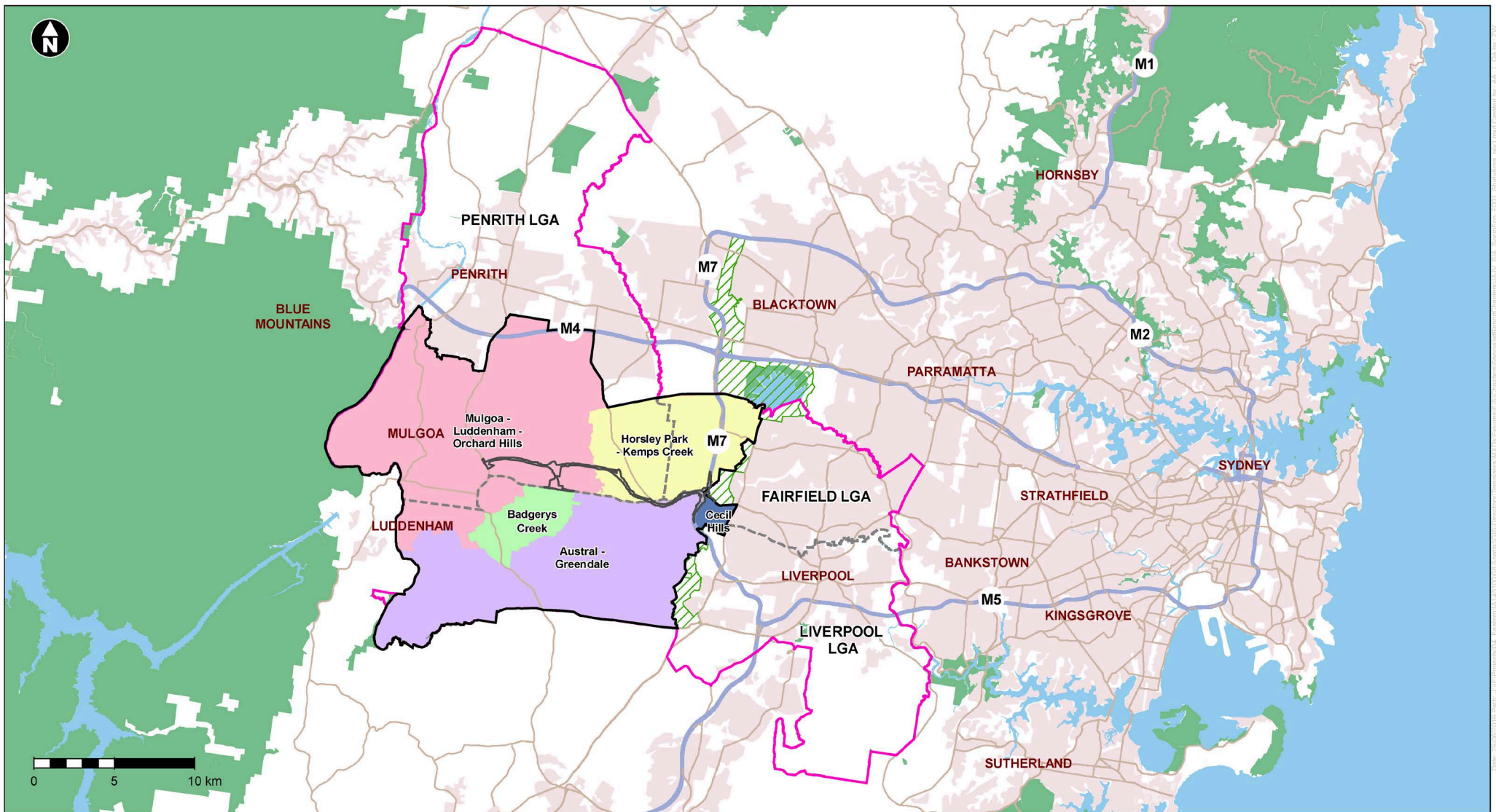


Figure 7-51 Socio-economic, land use and property assessment study area

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### Existing environment

The existing environment described in **Section 7.4.3** was determined by review and analysis of the following:

- State and local government policies and strategies
- Existing and future land uses
- Population and demographic data for communities in the primary and secondary study areas, including data for the Fairfield, Liverpool and Penrith LGAs, and relevant ABS 2 SA2 geographies, including the following:
  - Data on employment and income, and information on existing business, industry and agricultural uses
  - Information on community health and wellbeing, including health data from NSW Ministry of Health
  - Social infrastructure in the primary study area
  - Community values, including those relating to such things as local amenity and character, community cohesion and natural environment.

### Impact assessment

An evaluation matrix was used to evaluate the significance of these impacts, based on the evaluation framework developed by Roads and Maritime as part of the Environmental Impact Assessment Practice Note N05 – Socio-economic Assessment. The matrix assesses the levels of sensitivity and magnitude of the potential impact on determine a level of significance, as presented in **Table 7-70** to **Table 7-72**.

Table 7-70 Levels of sensitivity

Sensitivity	Example
Negligible	No vulnerability and able to absorb or adapt to change
Low	Minimal areas of vulnerabilities and a high ability to absorb or adapt to change
Moderate	A number of vulnerabilities but retains some ability to absorb or adapt to change
High	Multiple vulnerabilities and/or very little capacity to absorb or adapt to change

Table 7-71 Levels of magnitude

Magnitude	Example
Negligible	No discernible positive or negative changes caused by the impact. Change from the baseline remains within the range commonly experienced by receptors.
Low	A discernible change from baseline conditions. Tendency is that the impact is to a small proportion of receptors over a limited geographical area and mainly within the vicinity of the project. The impact may be short term, or some impacts may extend over the life of the project.
Moderate	A clearly noticeable difference from baseline conditions. Tendency is that the impact is to a small to large proportion of receptors and may be over an area beyond the vicinity of the project. Duration may be short term to medium term or some impacts may extend over the life of the project.
High	A change that dominates over existing baseline conditions. The change is widespread or persists over many years or is effectively permanent.

Table 7-72 Assessing level of significance

Sensitivity of receptor	Magnitude				
		High	Moderate	Low	Negligible
High		High impact	High-Moderate	Moderate	Negligible
Moderate		High-Moderate	Moderate	Moderate-Low	Negligible
Low		Moderate	Moderate-Low	Low	Negligible
Negligible		Negligible	Negligible	Negligible	Negligible

### 7.4.3 Existing environment

#### Land use

##### Existing land use

The project would be located within three local government areas: Fairfield LGA, Liverpool LGA and Penrith LGA, which constitute a variety of land uses.

Generally, existing land uses near the project are characterised by large property rural and grazing land at Luddenham to the west, transitioning to a mix of intensive agriculture (horticulture and animal production) and resources at Kemps Creek, and rural residential, commercial and parkland in Mount Vernon and Cecil Hills in the east. The site of the Western Sydney Airport at Badgerys Creek is located to the south of Elizabeth Drive on land that is currently mainly used for agricultural (grazing) purposes. Land use categories are described in detail in **Appendix H** and shown in **Figure 7-52**.

Agriculture and rural uses are the predominant use within and surrounding the project. Rural and agricultural uses are focussed in the central and western parts of the primary study area and include:

- General rural uses such as large lot farming and associated rural business and living uses, including at Luddenham and north of the project at Kemps Creek
- Grazing, including livestock and equine grazing (eg horse studs and horse riding facilities) at the eastern end of the project and within the University of Sydney owned McGarvie Smith Farm and Fleurs Farms at Badgerys Creek, which are used for beef cattle grazing
- Intensive agriculture, including intensive animal production, nurseries and horticulture, particularly at Kemps Creek and Mount Vernon
- Rural residential uses, including rural living and smaller farm properties north of the project corridor at Mount Vernon and south of the project corridor at Kemps Creek.

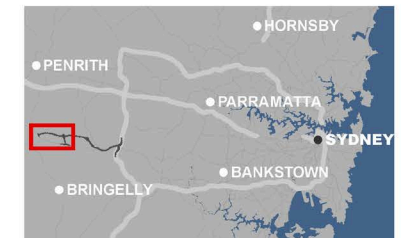
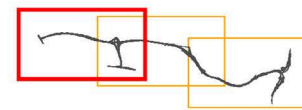
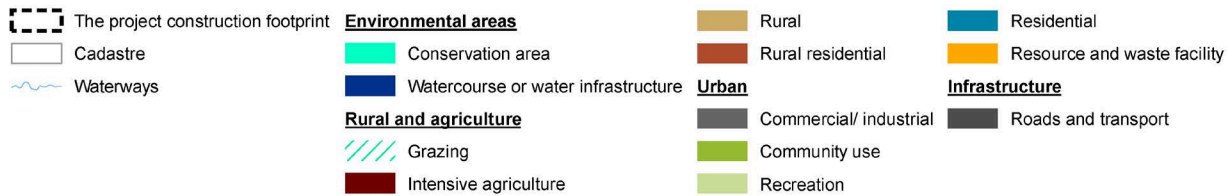
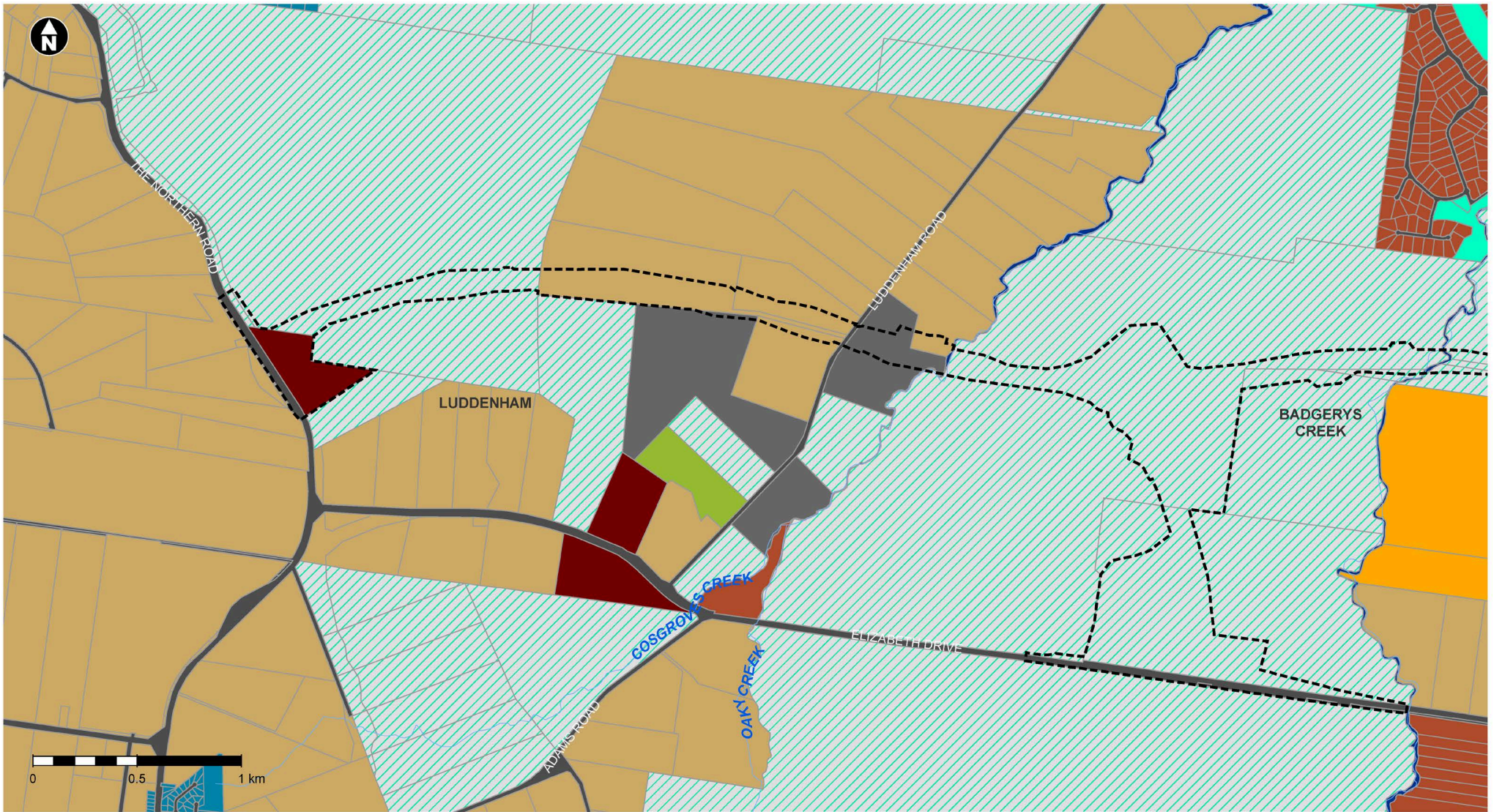
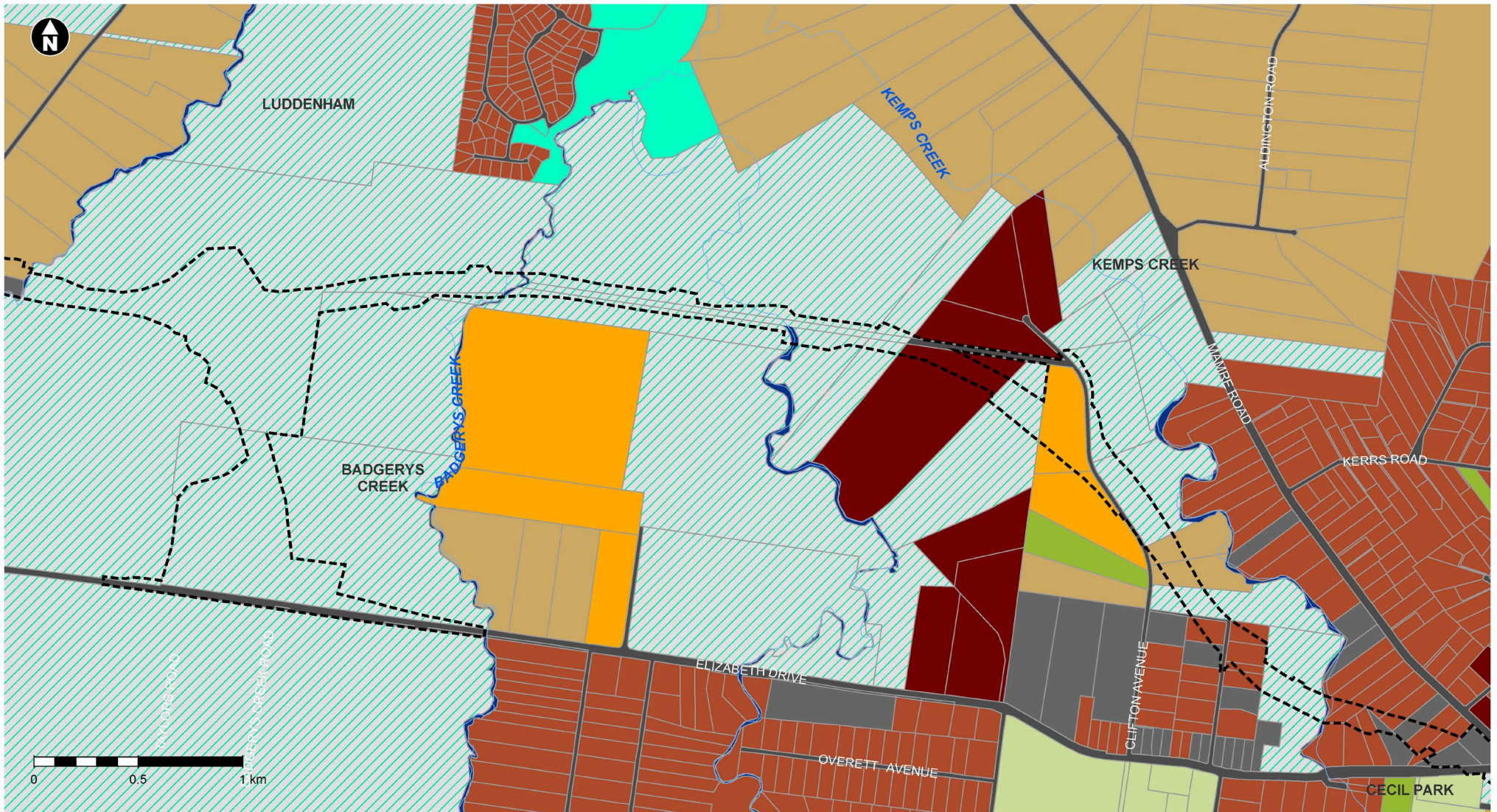


Figure 7-52 Land use within and surrounding the project



- The project construction footprint
  - Cadastre
  - Waterways
- |   |   |   |
|---|---|---|
| <p><b>Environmental areas</b></p> <ul style="list-style-type: none"> <li> Conservation area</li> <li> Watercourse or water infrastructure</li> </ul> <p><b>Rural and agriculture</b></p> <ul style="list-style-type: none"> <li> Grazing</li> <li> Intensive agriculture</li> </ul> | <p><b>Rural</b></p> <ul style="list-style-type: none"> <li> Rural</li> <li> Rural residential</li> </ul> <p><b>Urban</b></p> <ul style="list-style-type: none"> <li> Commercial/ industrial</li> <li> Community use</li> <li> Recreation</li> </ul> | <p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li> Roads and transport</li> </ul> |
|---|---|---|

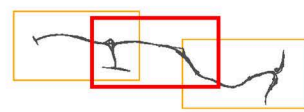


Figure 7-52 Land use within and surrounding the project



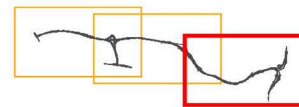
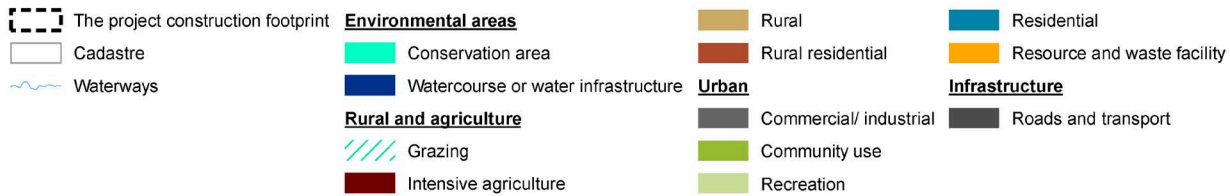
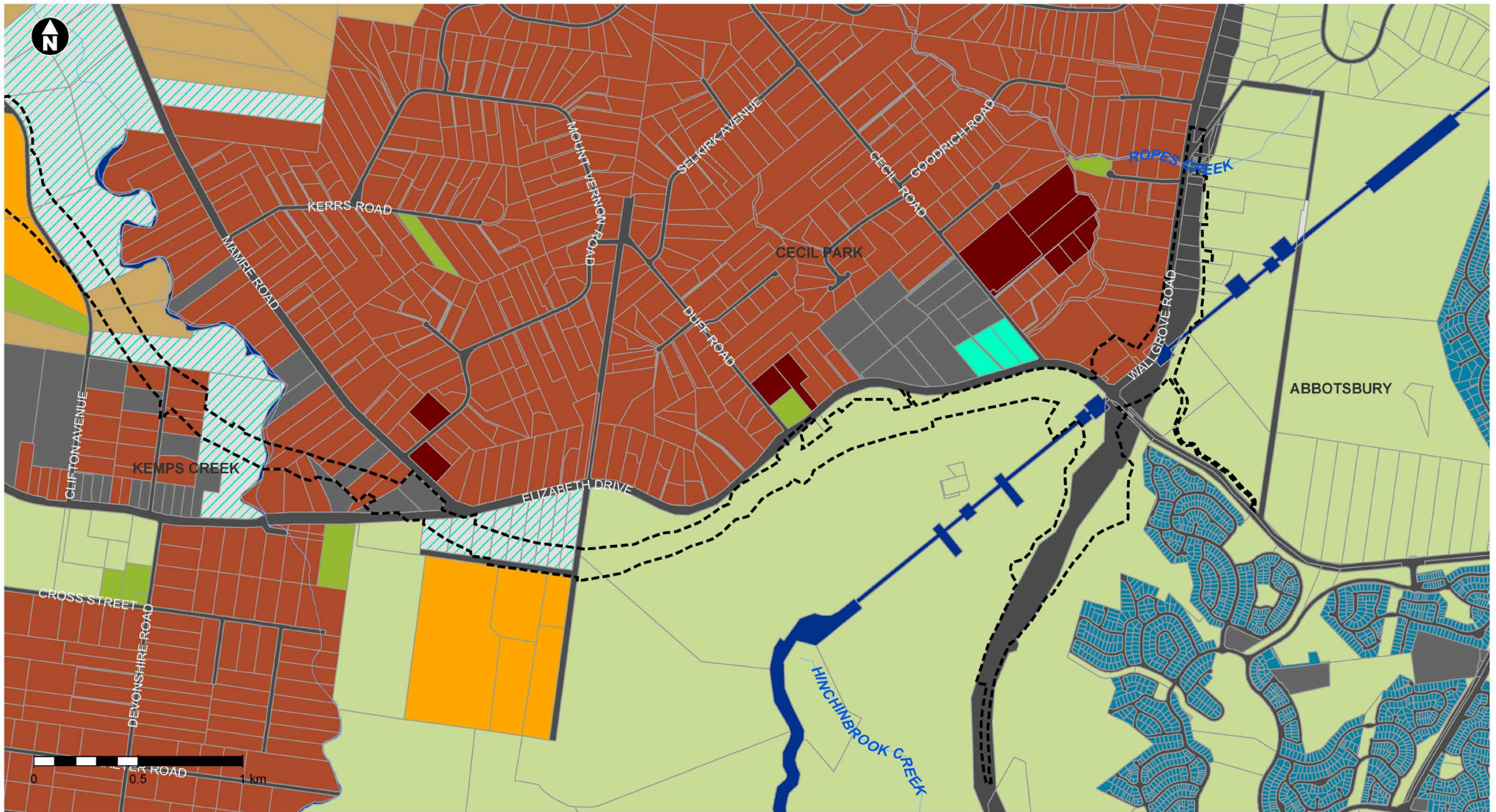


Figure 7-52 Land use within and surrounding the project

Urban land uses within or surrounding the project are mainly located north and south of the project at Badgerys Creek and Kemps Creek and at Mount Vernon and Cecil Hills. Key urban uses include:

- Commercial and general industrial uses at Elizabeth Drive and Mamre Road, Kemps Creek, and Luddenham Road at Luddenham
- Resource and waste facilities, including at Badgerys Creek, Kemps Creek and Cecil Park
- Residential suburbs at Cecil Hills
- Community uses such as education and places of worship at Kemps Creek and Mount Vernon
- Recreation uses, including formal and informal recreation facilities within the Western Sydney Parklands and Bill Anderson Reserve, Kemps Creek Sporting and Bowling Club and Kemps Creek Baseline Club at Elizabeth Drive, Kemps Creek (refer to the Social infrastructure section below for further information on sport and recreation uses).

Key environmental uses within or surrounding the project include:

- Watercourses, including creeks and waterways such as Cosgroves Creek, Badgerys Creek, South Creek, Kemps Creek and Ropes Creek
- Water infrastructure such as the Sydney Water Canal at Cecil Park
- Conservation areas north of the project at Luddenham, including land which forms part of the Cumberland Plain priority conservation lands.

Kemps Creek Nature Reserve is also located south of Elizabeth Drive within the Western Sydney Parklands, while scattered areas of tree and shrub cover are located along creeks and waterways.

A biobank site (ID number 119) is located within the Western Sydney Parklands, near the intersection of Elizabeth Drive and the M7 Motorway. The site covers an area of about 32.2 hectares. A carbon sequestration site is also located within the Western Sydney Parklands south of Elizabeth Drive and east of the Wylde Mountain Bike Trail.

### Mining and extractive resources

The primary study area also includes a number of mineral and coal titles and utilities infrastructure, as described in **Appendix H** and summarised as follows:

- Mineral title EL8429, held by The Austral Brick Co Pty Ltd, is located at the western end of the project corridor, north and south of Elizabeth Drive
- A Clay/shale quarry, operated by Hi-Quality Group, located at Elizabeth Drive, Kemps Creek, south of the operational footprint
- Clay quarry, resource recovery centre and landfill, operated by Brandown Pty Ltd, located at Cecil Park, south of the operational footprint
- Clay quarry, advanced (resource recovery technology facility, landfill and education centre, operated by SITA, located north of Elizabeth Drive and south of the operational footprint (Kemps Creek Resource Recovery Park)
- Clay/shale quarry, operated by Epic Mining Pty Limited, located along Adams Road, Badgerys Creek, south of the operational footprint
- An undeveloped clay resource (Cecil Park Clay Resource) is located at Cecil Road next to the PGH Bricks and Pavers Pty Ltd brickworks
- A former quarry (CSR Bricks and Roofing), north of Elizabeth Drive in Cecil Park.

### Future land use

The primary and secondary study areas comprise areas identified for future growth and development, including the Western Sydney Aerotropolis South West Growth Area and the Western Sydney Employment Area, all of which are addressed in **Chapter 3**.

A number of other developments were approved near the project footprint. These developments include the following:

- North West Growth Centre located in Blacktown
- Fitzpatrick Industrial Estate located in Erskine Park – this development is part of the Western Sydney Employment Area
- Eastern Creek Business Hub – a retail and village centre located in Eastern Creek
- Horsley Drive Business Park – an industrial, warehousing and distribution facility located in Wetherill Park
- Oakdale Industrial Estate – a warehouse, distribution and logistics facility located in Kemps Creek
- 327-255 Burley Road, Horsley Park – an industrial subdivision that will create 14 new industrial lots.

## **Community profile**

### **Demographic profile**

As at 30 June 2017, the primary study area had the following demographic profile:

- Total estimated resident population (ERP) of 31,459 people
  - Mulgoa-Luddenham-Orchard Hills SA2 had the largest residential population, with about 33 per cent of the primary study area's population (10,323 people) living in this statistical area
- Average population growth rate of 1.7 per cent annually over the 10 years from 2007 to 2017, increasing to 2.1 per cent annually in more recent years
  - This was above the average growth rates in the secondary study area and NSW as a whole over the same periods
  - High population growth was mainly driven by relatively high growth in Mulgoa-Luddenham-Orchard Hills SA2
- Median ages across the primary study area ranged from 35 years to 42 years
  - This compares to a median age of 38 years in NSW
  - Compared to NSW, the primary study area had higher proportions of children and youths, and lower proportions of older people
- Relatively stable population, with residents reporting low levels of population mobility
  - Compared to the secondary study area and NSW as a whole, the primary study area had higher proportions of people who had lived at the same address both 12 months and five years before the 2016 Census, possibly reflecting the rural nature of many localities in the primary study area
- Similar proportions of people born overseas compared to NSW as a whole
- Higher proportions of people that spoke a language other than English at home, and a higher proportion of people with lower levels of English proficiency compared to NSW as a whole
  - About 34.6 per cent of people in the primary study area reported speaking a language other than English at home, compared to 25.2 per cent in NSW as a whole
  - About 5.2 per cent of people in the primary study area reported to not speak English well or at all, compared to 4.5 per cent in NSW as a whole. People with lower levels of English proficiency represent a stakeholder group with particular communication needs and a group that may be more vulnerable to changes from the project due to a lack of understanding or awareness about some impacts
- About 1.3 per cent of the primary study area identify as Aboriginal and/or Torres Strait Islander, compared to 2.9 per cent in NSW as a whole
- Cecil Hills, Austral-Greendale and Horsley Park-Kemps Creek all recorded higher levels of diversity than NSW as a whole.

As at 30 June 2017, the secondary study area had the following demographic profile:

- Total ERP of 631,097 people
- Average annual growth rate of 1.4 per cent between 2016 and 2036
  - This is above the expected rate of population growth for NSW as a whole
  - Population of the secondary study area is projected to increase to 828,450 people by 2036
  - Liverpool LGA is expected to experience the greatest population growth, at an average of 2.2 per cent annually
- Levels of English proficiency were low in the secondary study area, with 11 per cent of people not speaking English well or at all
  - This was driven by particularly low rates of English proficiency in the Fairfield LGA, with 21.6 per cent of people not speaking English well or at all
- About 2.0 per cent of the secondary study area identify as Aboriginal and/or Torres Strait Islander, compared to 2.9 per cent in NSW as a whole.

### Housing and vehicle ownership

As of the 2016 Census, the primary study area had the following housing and vehicle ownership profile:

- About 93.6 per cent of the 87181 dwellings in the primary study area were occupied
- Separate dwelling houses are the predominant dwelling type of the area, making up about 89.9 per cent of private dwelling; this is higher than the NSW average of 59.9 per cent and is likely reflective of the rural nature of some localities in the primary study area
- Higher levels of owner-occupied houses (ie houses owned outright or owned with a mortgage) and lower levels of houses that were being rented compared to NSW as a whole
- Relatively high housing costs, recording median weekly rent and monthly mortgage costs above the NSW average
- Households in the primary study area were more likely to experience a level of housing stress due to mortgage payments, with a higher proportion of households spending 30 per cent or more of their household income on mortgage payments compared to NSW as a whole.

Households in the primary study area generally had a high level of private vehicle access, with relatively low proportions of households with one or no motor vehicle, and relatively high proportions of households with two or more motor vehicles. This is likely to reflect the rural nature of much of the primary study area and lower levels of access to public transport.

Housing and vehicle ownership were not assessed for the secondary study area.

### Socio-economic disadvantage, health and well-being

Rural communities in the vicinity of the primary study area generally displayed greater levels of relative disadvantage when measured using the ABS Socio-Economic Indexes for Areas (SEIFA) index (eg Austral, Kemps Creek, Greendale), while communities in areas such as Cecil Hills, Cecil Park, Luddenham village, and Mount Vernon generally demonstrated lower levels of relative disadvantage.

At the time of the 2016 Census, the primary study area recorded relatively low levels of people needing assistance, with about 5.1 per cent of the population reporting they needed assistance with self-care, mobility or communication. This was 6.6 per cent in the secondary study area and 5.4 per cent in NSW as a whole.

The health status of the community is summarised in **Section 8.3**.

## Income and employment

The primary study area recorded median personal and household incomes above the NSW average at the 2016 Census. Compared to NSW, the primary study area generally had lower proportions of low income households (ie households with a weekly income of less than \$650) and higher proportions of high income households (ie households with a weekly income of \$3,000 or more).

About 14,923 people in the primary study area reported to be either employed or looking for work at the 2016 Census, representing about 62.3 per cent of people aged 15 years or over. This was above the labour force participation rate for the secondary study area and NSW as a whole. The primary study area had a relatively low rate of unemployment, with 4.6 per cent of the labour force unemployed, compared to 7.7 per cent in the secondary study area and 6.3 per cent in NSW.

At the 2016 Census, key industries of employment for residents aged 15 years or over living in the primary study area included:

- Construction – 15.7 per cent, above the NSW average
- Retail trade – 10.0 per cent, above the NSW average
- Manufacturing – 7.9 per cent, above the NSW average
- Health care and social assistance – 7.9 per cent, below the NSW average.

About 3.9 per cent of the population(561 people) aged 15 years or over in the primary study area recorded that they were employed in agriculture, forestry and fishing. This represents nearly double the NSW average (2.1 per cent). There were about 4.7 per cent of the population aged 15 years or over in the primary study area employed in tourism related industries, such as accommodation and food services. This was below the proportion of people employed in these industries in the secondary study area and NSW.

## Community values

### Local amenity, character and sense of place

Local amenity and character in the primary study area is influenced by a range of land uses, including:

- Rural uses, such as grazing and horticulture uses, at Luddenham, Badgerys Creek, and Kemps Creek, and larger lot rural residential uses at Mt Vernon and Kemps Creek
- Urban residential uses at Cecil Hills
- Recreation and natural areas within Western Sydney Parklands
- Industrial uses, including landfills, resource recovery and quarries at Badgerys Creek and Kemps Creek.

It is recognised that existing amenity of some locations in the primary study area are currently impacted by traffic on major roads, such as Elizabeth Drive, the M7 Motorway and The Northern Road, and the presence of industrial uses. However, many locations are removed from major roads and are predominately rural in nature, These locations are likely to experience higher levels of amenity. Concerns about potential impacts on residential amenity and lifestyle due to traffic on the project and increased traffic on Elizabeth Drive were raised during consultation for the project.

The primary study area has undergone change in recent decades, with increasing urban development and residential and rural-residential estates. These areas offer residents access to open space, recreation and conservation areas, although has resulted in the loss of agricultural land and changes to the rural landscape within the primary study area. This is likely to continue over time with the development of the Western Sydney Airport and the Western Sydney Aerotropolis, which will drive further growth in urban development in the primary study area and wider region over the coming years.

The quality of local and regional access and connectivity can also influence local amenity. Community consultation for the Penrith Community Plan 2017 (Penrith City Council, 2017), Our Home, Liverpool 2027 (Liverpool City Council, 2017), and Our home, our city our future, 2016-2026 (Fairfield City Council, 2016) identified the following key local issues:

- Traffic flow and congestion
- Maintenance of local roads
- Ensuring infrastructure keeps up with growth and the airport
- Improved traffic management.

### Community cohesion and safety

Kemps Creek has a focus on local businesses and community facilities such as schools, sporting clubs, and cultural facilities, which provide local meeting places and support local networks and social cohesion. Communities in the primary study area reported relatively low levels of population mobility at the 2016 Census, with longer term residents likely to have a strong sense of belonging, connections and shared networks, which enhances community cohesion.

The Western Sydney Parklands (discussed further in the social infrastructure section below) also provides important places for social interaction and recreation, contributing to the sense of community for local residents and visitors. The importance of recreation facilities such as the Wylde Mountain Bike Trail as a drawcard for the area and the social and economic benefits provided by this facility were recognised in consultation carried out for the project.

Improved access and safety in public places is important to communities in the primary and secondary study areas. People being able to travel safely on roads, improved access and safety in public places were all identified in the community strategic plans for Liverpool, Penrith and Fairfield City Councils. The need for a full, safe, separated cycleway linking to existing cycle connections and consideration of safety for cyclists during construction was also raised during consultation for the project.

It is likely that Elizabeth Drive currently presents a perceived barrier to movement and access between communities and facilities, such as recreation and education facilities north and south of the road.

### Environmental values

Protection and conservation of the environment, biodiversity and natural assets, such as rivers, creeks, and bushland areas; is important to communities in the primary study area. In particular, protecting rural and natural lands/areas is identified as a community outcome in the Penrith Community Plan 2017 (Penrith City Council, 2017), in Liverpool's community strategic plan (Liverpool City Council, 2017) and in Fairfield council's community strategic plan (Fairfield City Council, 2016). Community concerns around potential impacts on remnant vegetation, including endangered ecological communities and changes in air quality, noise levels and visual amenity were identified during community consultation for the project.

The protection and respect of the area's heritage values is also important to the communities in the primary and secondary study areas. Protecting Liverpool's natural areas, heritage and character was identified in Liverpool's community strategic plan (Liverpool City Council, 2017). The importance of heritage items, such as the Upper Canal corridor, was identified during community consultation for the project.

## **Social infrastructure**

The primary and secondary study areas include a range of social infrastructure (**Figure 7-53**), such as:

- Major hospitals – including Fairfield Hospital, Nepean public and private hospitals (Penrith), and Liverpool Hospital
- Tertiary education facilities – including University of Western Sydney campuses at Kingswood and Werrington, TAFE Western Sydney Institute – Nepean College campuses at Kingswood and Penrith; TAFE South-western Sydney Institute – Liverpool College
- National, State and regional sport and recreation facilities – including Western Sydney Parklands, Sydney International Shooting Centre, Sydney Motorsport Park at Eastern Creek and Sydney International Equestrian Centre; Penrith Lakes Regional Park, which incorporates Sydney International Regatta Centre and Penrith Whitewater Stadium; Nepean Aquatic Centre; Penrith Park; Fairfield Showground; and Chipping Norton Lakes
- Major retail, commercial uses, cultural and community support facilities – located in the Fairfield, Penrith and Liverpool CBDs.

The primary study area also includes a range of community facilities and services that principally cater for communities within or surrounding the primary study area. These are mainly focused in localities such as Cecil Hills, Kemps Creek and Luddenham and include schools, sport and recreation facilities, and cultural facilities (eg churches).

Kemps Creek comprises a number of facilities that are accessed from Elizabeth Drive and that cater for communities at Kemps Creek and surrounding suburbs. While these facilities are generally located away from the project, there is potential they may experience impacts associated with access changes from construction and operation of the project. They include:

- Kemps Creek Public School (S8S5) located at Cross Street
- Christadelphian Heritage College Sydney (S9S6) located at Cross Street
- Bill Anderson Reserve (S7S4) located at Elizabeth Drive
- International Martial Arts Centre (S10S7) located at Elizabeth Drive

A number of community facilities are also scattered across the primary study area. While these are also located away from the project footprint (ie in some instances up to about two kilometres) they may be impacted by traffic changes associated with the project's construction or operation. These include:

- Model Park (S2S1) at Luddenham Road, Luddenham
- Animal Welfare League NSW (S5S2) at Elizabeth Drive, Badgerys Creek
- Do Re Mi Preschool (S13S10) at Kerrs Road, Mount Vernon
- Kemps Creek Nature Reserve at Cecil Park (S11).

Some community facilities and services are located on properties within about 400 metres of the construction footprint. The proximity of these facilities to the project means that there is greater potential for these to experience direct or indirect impacts due to the siting of project infrastructure, construction activities or operation. These community facilities and services include:

- Irfan Collage – located at Elizabeth Drive, Cecil Park
- Kemps Creek Sporting and Bowling Club – located at Elizabeth Drive, Cecil Park
- Kemps Creek Cougars Baseball Club – located at Elizabeth Drive, Cecil Park
- Western Sydney Parklands (see below), including:
  - Sydney International Shooting Centre – located at Range Road within the Parklands
  - Wylde Mountain Bike Trail – located at Range Road within the Parklands

- Science of the Soul Study Centre – located at Elizabeth Drive, Kemps Creek
- Muhammadi Welfare Association of Australia – located at Clifton Avenue, Kemps Creek
- St Peter and Paul Assyrian Church – located at Kosovich Place, Cecil Park.

### Western Sydney Parklands

The Western Sydney Parklands (the Parklands) is located at the eastern end of the project. The Parklands is the largest urban park in Australia, covering about 5280 hectares and stretching about 27 kilometres from Quakers Hill in the north to Leppington in the south. The Parklands incorporates a range of formal and informal sport, recreation and leisure uses including playgrounds, picnic facilities, sports facilities, bike tracks, nature trails and entertainment facilities. Major recreation facilities located within the Parklands include the Sydney International Shooting Centre, Sydney International Equestrian Centre and Wylde Mountain Bike Trail.

The Parklands attracted about four million visitors during the 2017-2018 financial year. The two picnic areas located within the Abbotsbury Precinct (Plough and Harrow, and Lizard Log) are popular features, attracting about 625,478 visitors and 260,148 visitors per year respectively. About 41,680 people visited the Sydney International Shooting Centre, while about 68,712 people used the Wylde Mountain Bike Trail.

### Wylde Mountain Bike Trail

Wylde Mountain Bike Trail is located within the Parklands, with access via Elizabeth Drive and Range Road. The trail was opened in 2014 and comprises a purpose-built facility providing a variety of trails for intermediate, competent and advanced mountain bike riders. The trail is used for recreational riders as well as national, State and local mountain bike events. It is open daily and includes number of trails ranging from three kilometres to 12 kilometres as well as a kids' loop, 'jump run' and 'pump track'. Other facilities such as shelters, viewing areas, bike wash down facilities, parking and amenities are also provided.

A range of comments were raised during consultation for the project relating to the trail. The comments related to:

- The need to maintain access to the trails during construction
- Concerns about impacts of the project on the trail
- The importance of the Wylde Mountain Bike Trail as a drawcard for the area
- The economic, health, social and environmental benefits provided by the trail
- Concerns about the impact of the project on 'the best section of the track' and the need for the trail to be enhanced as compensation.

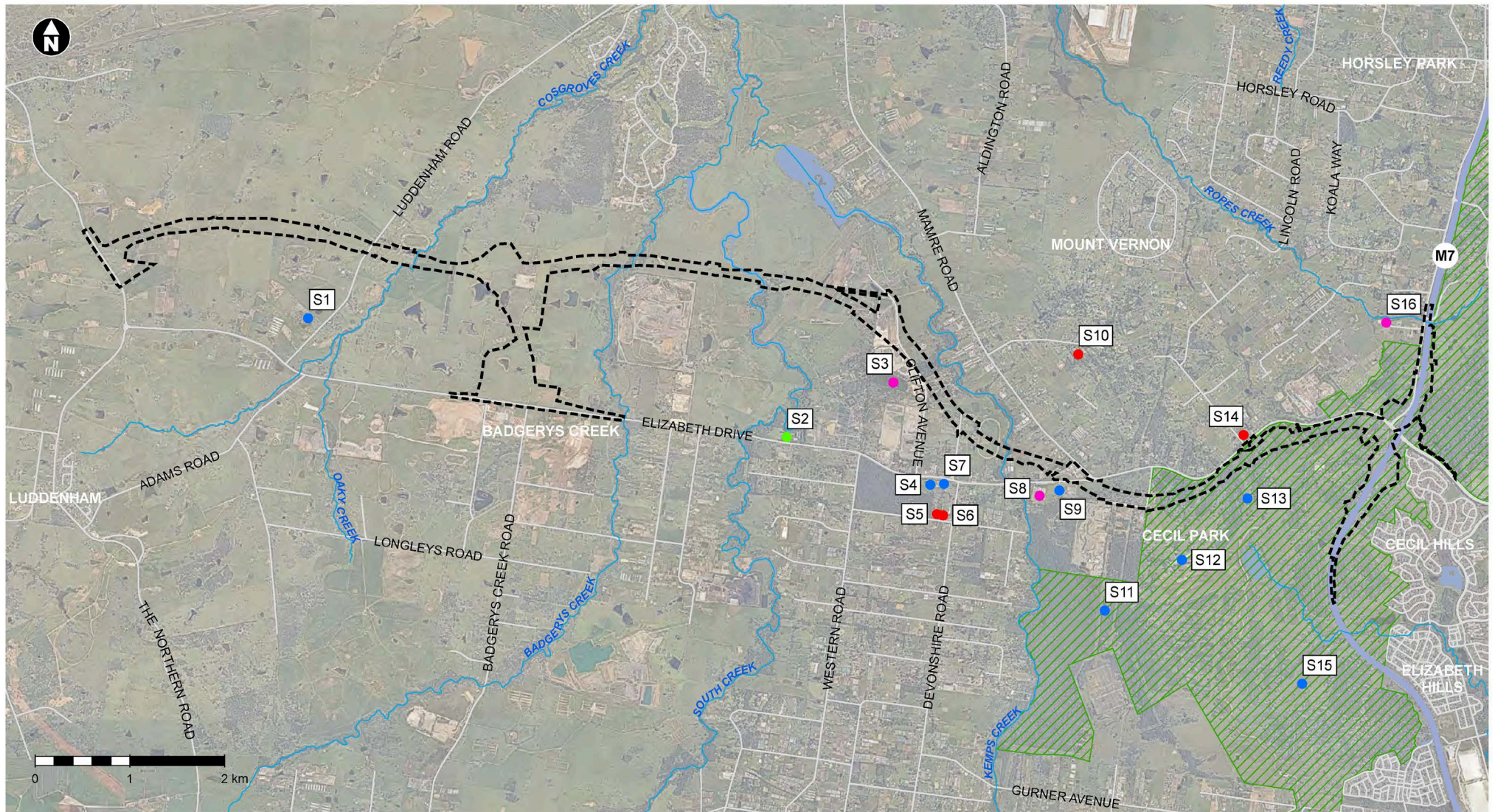
The importance of the Wylde Mountain Bike Trail and other walking and cycling tracks within the Parklands was also reflected in consultation carried out in 2016 for the Southern Parklands Masterplan, with community members identifying they currently visit the Southern Parklands for these activities.

### **Local business and industry**

There were 4105 registered businesses in the primary study area in June 2017. Construction related businesses comprised the largest group, accounting for about 28 per cent of total businesses in the primary study area. This was followed by rental, hiring and real estate services (12.6 per cent) and transport, postal and warehousing (11.8 per cent).

There were 44,169 businesses in the secondary study area in June 2017. Construction, transport, postal and warehousing, and rental, hiring and real estate services also comprised the largest groups of businesses in the secondary study area. There were 368 registered agriculture, forestry and fishing related businesses in the primary study area in June 2017, representing about nine per cent of total businesses in the primary study area.





--- The project construction footprint

- Waterways
- Motorway
- Main roads
- Western Sydney Parklands

**Social infrastructure types**

- Education
- Sport, recreation and leisure facilities
- Cultural facilities
- Other

Label Id	Name
S1	Model Park
S2	Kemps Creek Animal Shelter
S3	Muhammadi Welfare Association Of Australia
S4	Bill Anderson Park
S5	Kemps Creek Public School
S6	Christadelphian Heritage College Sydney
S7	International Martial Arts Centre
S8	Science Of The Soul Study Centre
S9	Kemps Creek Sporting And Baseball Club

Label Id	Name
S10	Do Re Mi Pre-School
S11	Kemps Creek Nature Reserve
S12	Sydney International Shooting Centre
S13	Wylde Mountain Bike Trail
S14	Irfan College
S15	Western Sydney Parklands
S16	St Peter And Paul Assyrian Church

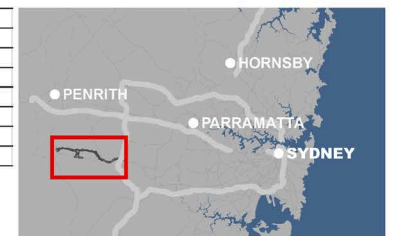


Figure 7-53 Social infrastructure near the project

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About 4044 businesses or 98.5 per cent of businesses in the primary study area, employed less than 20 people in June 2017. Non-employment businesses (ie sole proprietorships and partnerships without employees) comprised the largest group of businesses (54.8 per cent), marginally above the proportion of these businesses in the secondary study area. Eighty-one businesses (2.0 per cent) had between 20 and 199 employees in June 2017, while no businesses employed more than 200 people.

### Agricultural businesses

There were about 192 agricultural businesses in the primary study area in 2015–2016, of which about 53 businesses were farming livestock and 139 businesses were farming crops. Vegetable farms comprised the largest number of agricultural businesses in the primary study area. In 2015–2016, there were about 109 vegetable farms (about 56.8 per cent of agricultural businesses) in the primary study area, with key crops including tomatoes, lettuce, capsicum, cabbage, beans and broccoli. Two dairy farms are located in the primary study area.

Total agricultural output in the primary study area was around \$127 million in 2015–2016, representing about one per cent of total agricultural output in NSW as a whole. In terms of value, meat poultry was the largest commodity produced in the primary study area in 2015–2016. Other important commodities included vegetables, eggs, and nurseries, cut flowers and cultivated turf.

### Businesses located within or near the project

Some businesses at Luddenham, Badgerys Creek, Kemps Creek and Mount Vernon located away from the project (ie up to about one kilometre) may experience impacts associated with access changes from construction and operation of the project.

As shown in **Figure 7-54**, they comprise businesses that serve the needs of local and regional communities, as well as those that offer goods and services to customers across the Greater Sydney area, NSW and interstate. Businesses located within or near the project include the following types:

- Retailers that provide goods and services to support surrounding agricultural and rural uses, for example farm machinery and farm supplies
- Grocery, food and general retailers that provide goods and services to support local communities, including general stores, post offices, hardware and liquor stores
- Service stations, including at Elizabeth Drive and Mamre Road
- Service providers such as automotive repairers
- Businesses offering sport and recreation services such as horse-riding lessons and horse agistment services
- Resource and waste facilities
- Agricultural and agricultural related businesses, including egg farms, plant nurseries and food processing
- Manufacturing services.

There were 39 businesses identified within about 400 metres of the construction footprint. The proximity of these businesses to the project means that there is potential for these to experience direct or indirect impacts due to the siting of project infrastructure, construction activities or operation. These businesses are identified in **Table 7-73**, with further detail provided in **Appendix H**.

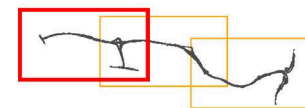
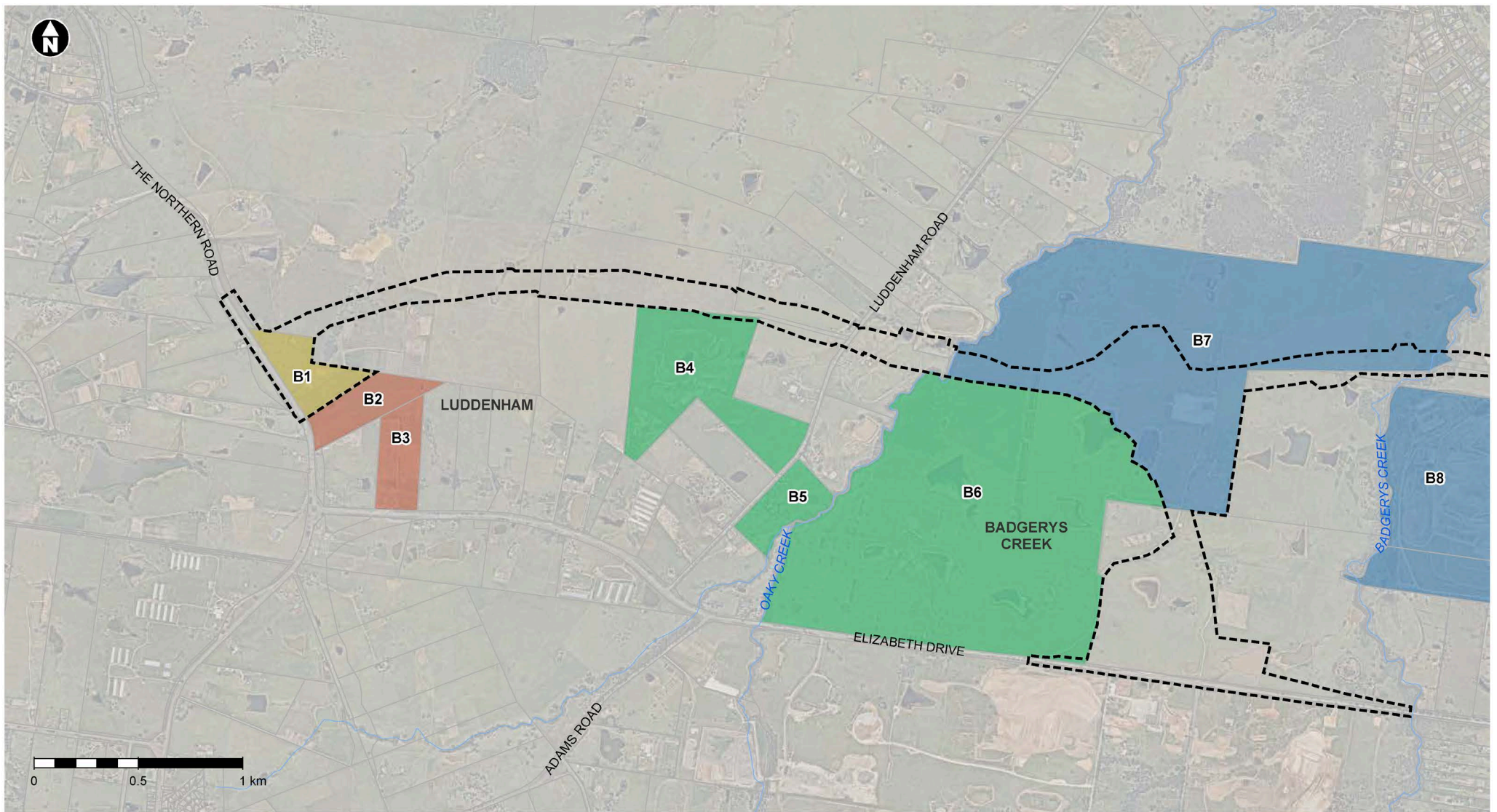
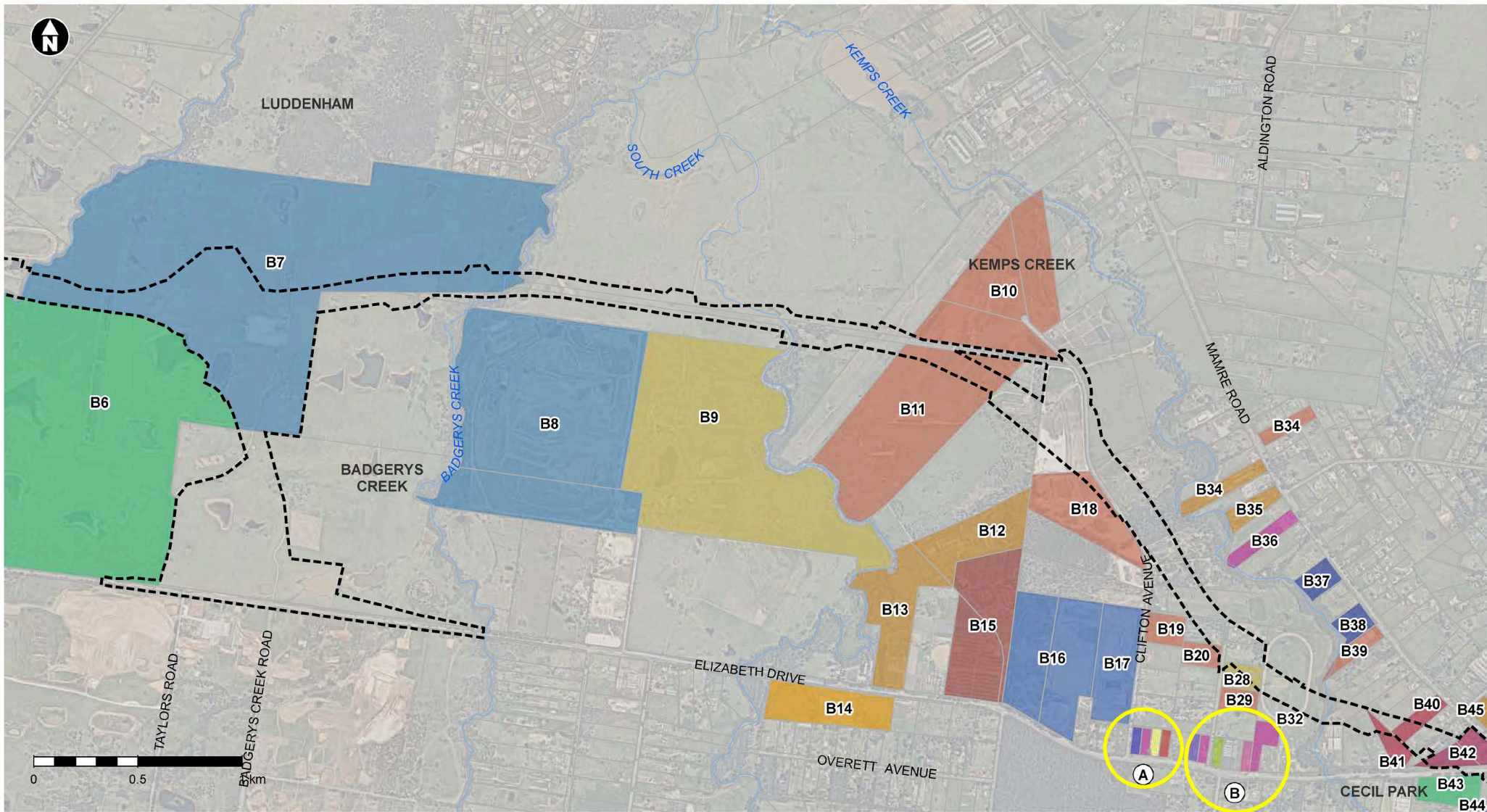


Figure 7-54 Businesses within about one kilometre of the project



The project construction footprint Waterways

**Postal services**

Postal services

**Agriculture**

Agriculture – horticulture

Agriculture – nursery

Agriculture – poultry farming

Agriculture – other livestock farming

**Sport and recreation**

Sport and recreation

**Construction services**

Construction services

Construction services and waste and resource recovery

**Industrial/manufacturing**

Industrial – manufacturing

**Manufacturing – fruit and vegetable processing**

Manufacturing – fruit and vegetable processing

**Quarrying, waste management and/or resource recovery**

Quarrying and resource recovery

Quarrying, waste management and/or resource recovery

**Retail**

Restaurant, café, takeaway food services

Retail – farm and garden supplies

Retail – food retailing (grocery/ convenience)

Retail – fuel retailing

Retail – hardware, building and garden supplies

Retail – houseware retailing

Retail – machinery and equipment

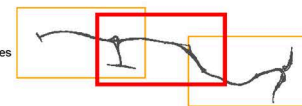
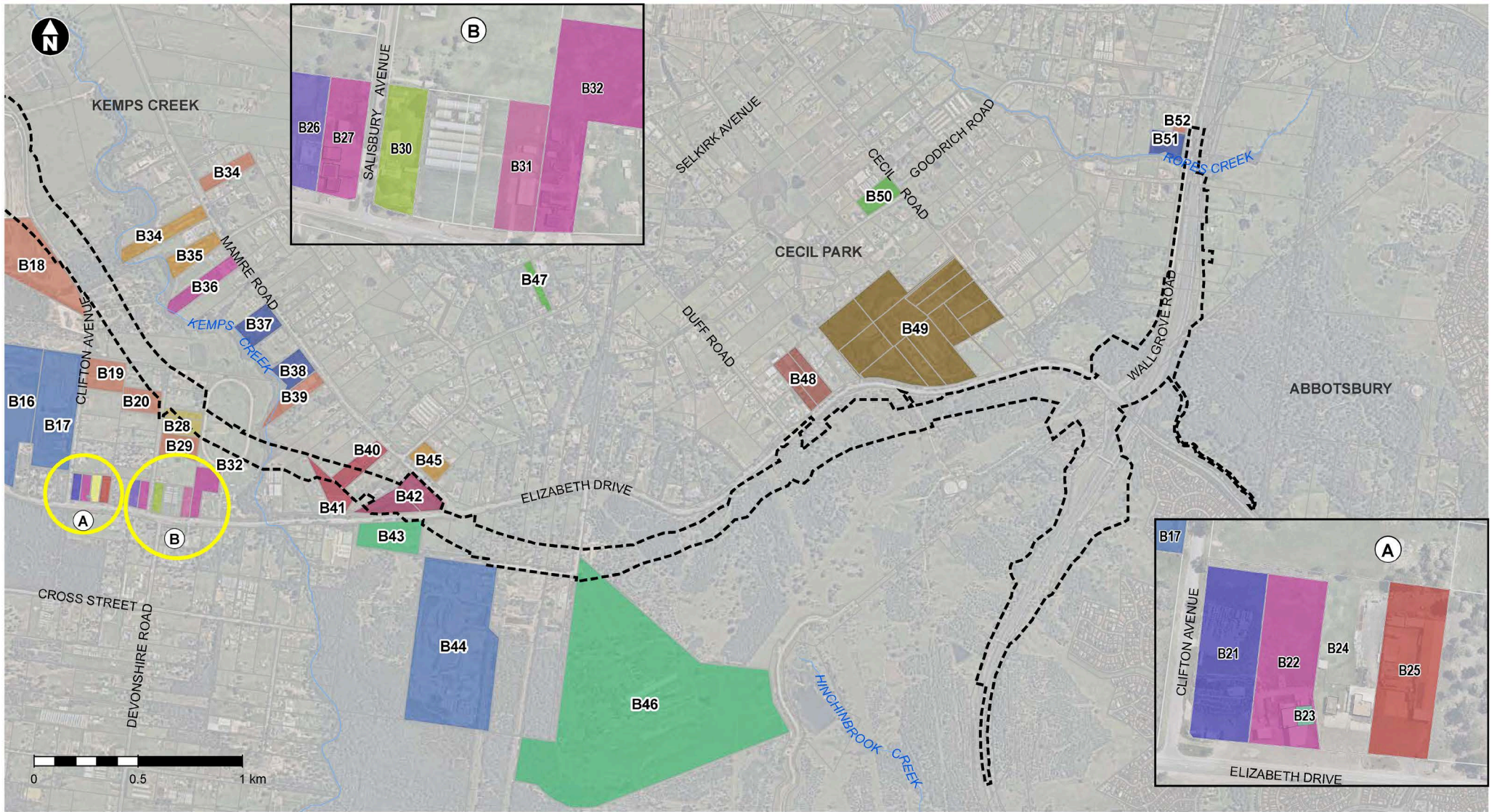


Figure 7-54 Businesses within about one kilometre of the project



The project construction footprint Waterways

**Postal services**

Postal services

**Agriculture**

Agriculture – horticulture

Agriculture – nursery

Agriculture – poultry farming

Agriculture – other livestock farming

**Sport and recreation**

Sport and recreation

**Construction services**

Construction services

Construction services and waste and resource recovery

**Home based business**

Home based business

**Industrial/ manufacturing**

Manufacturing – clay brick manufacturing

**Manufacturing – fruit and vegetable processing**

Manufacturing – fruit and vegetable processing

**Quarrying, waste management and/or resource recovery**

Quarrying and resource recovery

**Retail**

Restaurant, café, takeaway food services

Retail – farm and garden supplies

Retail – food retailing (grocery/ convenience)

Retail – fuel retailing

Retail – hardware, building and garden supplies

Retail – houseware retailing

Retail – machinery and equipment

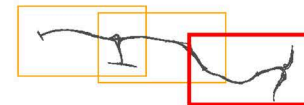


Figure 7-54 Businesses within about one kilometre of the project

Table 7-73 Businesses within about 400 metres of the construction footprint

Business	Business type	Address	Distance from construction footprint (approx.)**
<b>Luddenham</b>			
The Honey Shed	Agriculture – other livestock farming and retailing	The Northern Road	Property is within the construction footprint
Farm	Intensive agriculture – horticulture	The Northern Road	0 metres (construction footprint is located adjacent to this property)
Farm	Intensive agriculture – horticulture	Elizabeth Drive	190 metres
Luddenham Raceway, Go Karting and Paintball	Sport and recreation	Luddenham Road	0 metres (construction footprint is located adjacent to this property)
<b>Kemps Creek</b>			
Quarry use (Ron Medich property quarry)	Resource and waste facility	Elizabeth Drive	Property is within the construction footprint
SUEZ Kemps Creek Resource Recovery Park	Resource and waste facility	Elizabeth Drive	105 metres
Kingsfield Stud	Agriculture – other livestock farming	Elizabeth Drive	35 metres
J & M Vella Farm Fresh	Intensive agriculture – horticulture	Clifton Avenue	Property is within the construction footprint
Farm	Intensive agriculture – horticulture	Clifton Avenue)	Property is within the construction footprint
Ash and Sons Eggs	Intensive agriculture – poultry farming	Elizabeth Drive	190 metres
Hi-Quality Group Kemps Creek Central Quarry	Resource and waste facility	Elizabeth Drive	320 metres
Wanless Waste Management	Resource and waste facility	Clifton Avenue	160 metres
TreeServe	Resource and waste facility	Clifton Avenue	Property is within the construction footprint
Farm	Agribusiness – horticulture	Clifton Avenue	15 metres
Farm	Intensive agriculture – horticulture	Salisbury Avenue	Property is within the construction footprint
Mitre 10 Kemps Creek	Retail – hardware	Elizabeth Drive	365 metres
Nando's Meat Market	Retail – supermarket and grocery store	Elizabeth Drive	365 metres (the building is located about 435 metres from the construction footprint)

Business	Business type	Address	Distance from construction footprint (approx.)**
Bara Lodge	Agriculture – horse training and agistment		Property is within the construction footprint
Farm	Intensive agriculture – horticulture	Salisbury Avenue	0 metres (construction footprint is located adjacent to property boundary)
Badgerys Creek Mowers	Retail – other	Elizabeth Drive	300 metres (the retail building is located about 370 metres from the construction footprint)
Evergreen Farm and Garden Supplies	Retail – other	Elizabeth Drive	230 metres (the retail building is located about 350 metres from the construction footprint)
Caltex Kemps Creek and IGA X-press and Kemps Creek Bottler	Retail – fuel retailing/ supermarket and grocery store	Elizabeth Drive	95 metres (the area used for the service station and associated supermarket and bottle shop is located about 310 metres from the construction footprint)
Agriculture	Intensive agriculture – poultry farming	Mamre Road	85 metres (sheds are located about 280 metres from the construction corridor)
Agriculture	Intensive agriculture – poultry farming	Mamre Road	260 metres
Caltex Star Mart Kemps Creek	Retail – fuel retailing	Mamre Road	160 metres (the area used for the service station is located about 475 metres from the construction footprint)
Top Class Fruit Supply	Manufacturing – fruit and vegetable processing	Mamre Road	350 metres
Barden Produce	Manufacturing – fruit and vegetable processing	Mamre Road	240 metres
Agriculture	Intensive agriculture – horticulture		50 metres (shade houses are about 275 metres from the construction footprint)
Western Safety Fences	Construction services	Mamre Road	Property is within the construction footprint
Vac Group Australia	Construction services	Elizabeth Drive	Property is within the construction footprint
Hi-Quality Group Head Office	Resource and waste facility	Elizabeth Drive and Mamre Road	Property is within the construction footprint

Business	Business type	Address	Distance from construction footprint (approx.)**
Kemps Creek Sporting and Bowling Club	Sport and recreation	Elizabeth Drive	0 metres (construction footprint is located adjacent to this property)
Brandown Quarry, Waste and Recycling Services	Resource and waste facility	Elizabeth Drive	0 metres (construction footprint is located adjacent to this property)
The Big Chook Farm	Intensive agriculture – poultry farming and retailer	Mount Vernon Road	40 metres (the buildings are located about 95 metres from the construction footprint)
<b>Cecil Park</b>			
Sydney International Shooting Centre	Sport and recreation	Range Road	Property is within the construction footprint (the building and shooting facilities are about 500 metres from the construction footprint)
Walls Nursery	Retail – other	Duff Road	170 metres
PGH Bricks & Pavers (CSR Bricks and Roofing)	Manufacturing – clay brick manufacturing	Cecil Road	35 metres
Fresh Produce Pty Ltd	Manufacturing – fruit and vegetable processing	Wallgrove Road	0 metres (construction footprint is located adjacent to this property)
Sydney Bean Sprouts	Intensive agriculture – horticulture	Wallgrove Road	0 metres (construction footprint is located adjacent to this property)

Kemps Creek includes a number of businesses that cater for surrounding communities, workers and passing traffic. These include businesses with frontages to Elizabeth Drive and Mamre Road. While these businesses are generally located away from the construction footprint, there is potential for these facilities to experience impacts associated with access changes from construction and operation of the project.

Business and shopper surveys were carried out at Elizabeth Drive and Mamre Road, Kemps Creek to gather information on business operations and business owner perceptions about potential project impacts. Feedback raised included:

- The most popular purpose for visiting the area was for eating/drinking out, with many respondents attending Kemps Creek Sporting and Bowling Club
- The majority of shoppers surveyed reported to live in suburbs within western Sydney
- All shoppers surveyed travelled to businesses in the area by car. Nearly half of shoppers surveyed indicated they visited businesses at Kemps Creek because it was easy to drive to
- Most shoppers consulted for this assessment suggested that less traffic would improve their enjoyment of the area due to a reduction in traffic noise and easier access. In particular, reduced congestion and trucks were identified as a positive impact by a number of people.



## Transport and access

There are a number of local and regional roads in the vicinity of the project. The M7 Motorway and The Northern Road travel north to south within the primary study area, with a number of local roads also in the primary study area. These are presented in **Section 7.2**.

The primary study area is serviced by a number of public transport bus routes, as described in **Section 7.2.3**. School bus routes also operate in the primary study area, connecting to schools in the primary and secondary study areas.

In summary, there is currently limited pedestrian and cycling infrastructure provided in the area, reflecting the predominately greenfield character and low population densities that do not support construction of off-road active transport facilities. Existing pedestrian and cycling infrastructure within the primary study area is described in **Section 7.2.3**.

## 7.4.4 Assessment of potential impacts

This section provides a summary of the potential socio-economic, land use and property impacts associated with the construction and operation of the project. A summary of the level of impact significance is provided in **Table 7-74** based on the evaluation framework in **Section 7.4.2**.

### **Construction impacts**

#### Property impacts

##### *Directly affected properties*

Property acquisition for the project would directly impact 41 properties. About 36 properties would be partially acquired with five properties fully acquired. Temporary leases of land would also be required to accommodate ancillary construction facilities. Full details of these acquisitions and temporary leases are presented in **Table 5-11** and **Appendix H**.

Land to be acquired for the project includes privately owned land and land owned by NSW Government agencies. Ownership of land directly affected by the project includes:

- 36 properties are privately owned, including 13 privately owned properties that are owned by a company
- Two properties held in public ownership, including land within Western Sydney Parklands and land owned by WaterNSW.

Two properties previously held in private ownership are now owned by Roads and Maritime.

One property is currently in Commonwealth ownership (Property ID 41). The process to transfer this property to the NSW State Government has begun, and will likely be owned by Roads and Maritime at the time of project approval. For the purposes of the EIS, the land was assessed as state owned. Construction of the project would not start until the land is actually under state ownership.

Most land affected by the project comprises rural land, including land used for grazing, intensive animal production, and horticulture. Other directly affected properties include:

- Land within the Western Sydney Parklands at Cecil Hills, managed by the Western Sydney Parklands Trust
- Commercial and business uses at Badgerys Creek, Kemps Creek and Cecil Park.

Acquisitions for the project would be carried out by Roads and Maritime in accordance with the provisions of the NSW *Land Acquisition (Just Terms Compensation) Act 1991* and the Land Acquisition Reform 2016 process. The Act provides the basis for an appropriate valuation process and the fair assessment of just compensation. Where properties are only partly affected by the project, Roads and Maritime would generally carry out partial acquisition of the directly affected portion. In some instances, Roads and Maritime would give consideration to total acquisition (dual offer) or acquisition of any residual parcels that are created by the location and design of the project. This would provide affected property owners with a level of flexibility or choice during the property acquisition process in relation to property decisions. For example, some property owners may want to retain residual parcels for future use. Roads and Maritime would continue to consult with land owners through the detailed design about these land parcels. Total acquisition offers may be triggered in instances where:

- Residual land is not developable
- Roads and Maritime is unable to provide access to the residual land
- The project directly impacts and requires removal of the main residence on the property
- Roads and Maritime receives a request from the land owner.

Partial acquisition of rural properties may require the demolition or relocation of infrastructure such as fencing, dams, sheds and other directly affected structures before construction. This would be carried out in consultation with the property owner. Partial acquisition of land may also result in severance or fragmentation of some rural properties, particularly larger land holdings comprising a number of lots. During construction, temporary leases or licences of land would also be required to accommodate ancillary construction facilities such as work sites, compounds and laydown areas. Properties likely to be affected by a proposed use as ancillary facilities during the construction of the project are presented in **Section 5.24.3**, and include areas of rural land, commercial uses and land within the Western Sydney Parklands.

Use of and access to land subject to temporary lease arrangements would be disrupted during the construction period. Following construction, these areas would be reinstated to pre-construction use, including the reinstatement of any affected infrastructure such as fencing, as agreed with the property owner.

#### *Impact of property acquisition*

The project would require the demolition of nine dwellings located on rural and rural-residential properties to be acquired for the project. Before construction, these dwellings would be demolished, requiring residents to relocate. Property acquisition for the project would be carried out in accordance with the provisions of the NSW *Land Acquisition (Just Terms Compensation) Act 1991* and the Land Acquisition Reform 2016 process.

The relocation of residents due to acquisition has potential to impact on community cohesion through disruption to social networks and community relationships, if residents are required to move away from existing social and support networks. These impacts generally have the greatest effect on groups such as the elderly, people with disability, longer term residents and people on lower incomes who are often more reliant on personal and community networks and who may not have access to the economic resources to respond to changes from the project. These impacts may also be felt more acutely by owners of properties which were held in the same family for several generations.

#### *Other property impacts*

Access would be maintained to individual properties near the operational footprint, including at Elizabeth Drive, Mamre Road, Clifton Avenue and The Northern Road. Some permanent changes would be required to some access roads as described in **Section 7.2**. This may change access routes, potentially increasing travel distances to individual properties.

While the project design has sought to minimise impacts on property as far as practicable, permanent property adjustments would be required to some private properties for the project, including adjustments to fencing and farm infrastructure including farm dams, sheds, and shade houses, due to partial property acquisitions. The project design, including evaluation of route options (described in **Section 4.2**), has sought to minimise any impact of severance on farming operations as far as practicable. Any adjustments to properties required for the project would be carried out in consultation with the property owner. Partial property acquisition may also result in severance or fragmentation of some rural properties, potentially isolating some parts of rural properties and impacting on the efficiency of property management and farming operations.

Potential impacts may occur for properties near the project due to changes in local amenity related to visual impacts, increased traffic noise and changes to air quality. Concerns about noise impacts associated with the project's construction and operation were identified during consultation for the project along with the need to minimise noise and visual intrusion through the use of landscape design and appropriate road surface and other measures, as identified in **Table 7-124**. It is not anticipated that any property's potable water access would be impacted.

## Land use impacts

### *Existing land use*

During construction, potential impacts on existing land use within the primary study area would mainly relate to:

- Direct impacts on land use from the siting of construction compounds and ancillary facilities along the operational footprint, including at Luddenham, Badgerys Creek, Kemps Creek, and Cecil Park
- Reduced amenity for some land uses surrounding construction compounds and construction works, due to noise and dust from construction activities and increased construction traffic
- Temporary changes to property access near construction works, due to changes in traffic conditions.

The construction footprint would directly impact about 354.2 hectares of land, of which the predominant land uses are rural and agricultural, including land used for grazing, intensive agriculture, and rural residential uses.

Land classified as rural and agricultural uses accounts for about 63 per cent of land within the construction footprint (223.9 hectares). About 25.8 hectares of land within the construction footprint comprises general rural uses such as large property rural living uses, and about 15 hectares of land comprises intensive agricultural uses, including intensive animal production and horticultural uses.

About 20 per cent of land within the construction footprint (72.8 hectares) comprises urban uses, which mainly includes land used for recreation within the Western Sydney Parklands. About 54.6 hectares of land within the construction footprint comprises existing infrastructure uses, including road and transport uses.

Overall, potential impacts on land uses within the study area are generally expected to be low, given the project would mainly pass through rural areas used for grazing.

### *Resource and waste facilities*

The project would impact about 9.9 hectares of land within the construction footprint that is identified as having resource and waste facility uses. This includes land used for a tree depot and green waste recycling facility at Clifton Avenue. About 0.8 hectares (about 6.3 per cent) of this property would be required for the project construction and operational footprints and the existing local access to Clifton Avenue. This would not directly impact facilities such as the office and weighbridge. It would, however, reduce the area used for laydown and green waste recycling activities. It is expected that the business would be able to continue to operate at the site.

During construction, temporary reductions in amenity may result from increased dust, noise and traffic associated with construction activities. Environmental and traffic management measures would be implemented during construction to minimise impacts on amenity for workers.

The project would be located on land subject to a current exploration licence (EL8429). EL8429 comprises about 127.31 square kilometres, in which exploration activities for clay and shale minerals are currently carried out. The project would impact about 0.9 per cent of the total licence area (about 1.15 square kilometres of EL8429). It is noted that an EL829 is an exploration licence, which does not permit mining and does not guarantee that a mining lease is granted. According to NSW Resources and Geosciences (n.d. a), only a very small percentage of land that is subject to exploration licences are granted mining rights. In addition, EL8429 is set to expire on 20 April 2021. If the exploration licence is renewed, the land subject to exploration would generally be reduced by about 50 per cent (NSW Resources and Geoscience n.d. b). Considering this, and given that less than one per cent of the exploration licence area would be impacted by the project, it is anticipated that the project would not have a major impact on EL8429.

An undeveloped clay resource (Cecil Park Clay Resource) is also located at Cecil Road, north of Elizabeth Drive in Cecil Park, although this would not be impacted by the construction of the project. All other identified mineral resources are located outside the construction footprint and would not be impacted by the project.

Further discussion of potential construction impacts on the business operations of these uses is provided below.

#### *Infrastructure and utilities*

The project would affect some utilities and services in the primary study area, including electricity transmission lines, communications infrastructure, and water and gas pipelines. These services would be modified, protected or relocated as part of the project's construction, in consultation with the relevant service provider to minimise any service disruptions and in accordance with the Utilities Strategy Report being prepared for the project. This report will include information regarding future provisions for new utilities in consultation with asset owners.

The operational footprint would also require local access changes to major utilities located in the Western Sydney Parklands, including the Cecil Hills water reservoir and radio and mobile communications towers. Access to these facilities would be maintained via a new access overpass at the intersection of Elizabeth Drive and Duff Road.

#### *Future land uses*

The project is being planned to be constructed at the same time as the Western Sydney Airport and will be operational at the start of airport operations. During construction, potential impacts on the Western Sydney Aerotropolis would mainly be associated with increased traffic due to construction vehicle movements and are expected to be minor.

The construction phase of the project is not expected to significantly impact on land uses proposed in the Western Sydney Aerotropolis and Western Sydney Growth Area given these land uses are generally dependent on the completion of the project to provide access to these future growth areas. It is expected that the construction of the project would be completed prior to most developments in the area. Construction of the project is not expected to impact construction or operational activities associated with the growth area. Potential impacts of the project's construction on other developments in the area are expected to be minor and would mainly be associated with construction traffic changes.

#### *Water use impacts*

As described in **Section 7.9**, potable water supplies or water from sediment basins would be used during construction to meet construction water demands. Construction water sources would be confirmed during detailed design but are likely to include a combination of potable mains supply and recycled water, drawn from sources internal and external to the construction footprint.

This would potentially include the farm dams listed in **Table 5-11**. However, the total volume of water to be used is relatively low (see **Table 7-136**) and would have a minor impact on environmental water availability and flows.

Consultation with affected property owners/ business managers would be undertaken during detailed design to inform any changes to these farm dams.

A water reuse strategy would be developed for both construction and operational phases of the project to reduce reliance on potable water. This strategy would be prepared during the detailed design stage and implemented throughout construction. The strategy would outline the construction and operational water requirements and potential water sources to supply the water demand in consultation with Sydney Water. Alternative water supply options to potable water will be investigated, with the aim of reusing water using recycled water where feasible. This management measure is provided in SWH03 in **Table 7-143**.

The construction of the project includes utility works as described in **Section 5.20**. Potable pipelines are located along Elizabeth Drive and other local roads and within the Western Sydney Parklands. Some water pipelines may be protected and/or relocated as listed in **Table 5-10**. The project design would be further refined during detailed design with the aim of minimising impacts on existing utilities and services, in consultation with utility owners and/or providers of services where feasible and reasonable. It is therefore, not anticipated that the project would have any impacts to potable water access during construction.

A range of environmental management measures (listed in **Section 7.4.6** and **Section 7.9.6**) would be implemented during the detailed design and construction phases of the project to minimise impacts on water quality. As a result, the project is expected to have minimal impacts on existing water quality and environmental values during the construction phase, however additional monitoring would be undertaken to confirm if the implementation of these environmental management measures is effective. Further, there is not expected to be any extraction of water from local waterways for construction of the project and, as a result, it is not anticipated that the volume of water being extracted from local waterways would be impacted.

No construction machinery or structures would be placed in waterways that would cease or block flow. Temporary creek crossing and work platforms may be required at some watercourses, however, for the construction of haul roads, temporary construction access tracks and for bridge pier and abutments. Temporary working platforms would be designed to facilitate water flow and allow fish passage. The project is, therefore, not anticipated to impact on environmental flows.

Construction may result in changes to localised flow paths along minor drainage lines leading to increased scour and erosion potential. These changes also have the potential to modify/redirect flows to farm dams (eg either increase or decrease flows) and impact their embankments (eg increases in the frequency and rate of flow surcharging their spillways). Conversely, a reduction in flow associated with inter-catchment transfer of flow can also result in detrimental environmental effects. These impacts would be further investigated during detailed design.

Some market gardens or other water users within the vicinity of the project may have licences to access water from the waterways. Although the project is not expected to extract water from local waterways, construction activities have the potential to impact flow rates, volumes and flow paths within waterways and drainage lines.

During construction, all runoff and localised flows within the construction footprint would be controlled by erosion and sediment control measures, such as temporary sediment basins, temporary drainage and sediment fencing, to reduce the potential for scour and erosion. Further, with the implementation of the management measures (listed in **Section 7.4.6** and **Section 7.9.6**), potential impacts to surface water quality during construction would be minor and manageable. The project is, therefore, not anticipated to have a major impact on these water users.

## Population and demography

During construction, the construction workforce would generally be sourced from across the Greater Sydney region and is not expected to change population and demography in the primary study area. Further, any potential changes would be relatively minor in the context of construction associated with broader investment and development planned to occur in the wider Sydney region in coming years.

## Employment impacts

During the construction phase, the project would have beneficial impacts on employment through the creation of direct employment opportunities. It is estimated that the total workforce would peak between about 600 and 800 workers, or an average of about 400 workers per year over the three-year construction period, excluding part-time workers, off-site workers and delivery truck drivers.

These benefits would be realised across the Greater Sydney region and may support improved incomes for some workers. Construction of the project would also have indirect employment benefits through the generation of indirect jobs in local, regional and national businesses and industries that support construction activities.

The project's construction phase is likely to provide benefits for groups such as young people, unemployed and Aboriginal people. In particular, the project's construction would provide training opportunities and apprenticeships, allowing young people and others to gain skills in the construction industry, while the implementation of the NSW Government's Aboriginal Participation in Construction Policy (2018b) would also provide employment and training opportunities for Aboriginal people. This would support improved social and economic outcomes for individuals, through skills development, income, and enhanced opportunities for future employment.

## Business and industry impacts

### *Directly impacted businesses*

Potential acquisition and temporary leases or licences of land for the project would impact on about 10 properties currently used for commercial uses, including agribusinesses. These are detailed in **Appendix H** and include:

- Recreation based businesses such as Luddenham Raceway and Sydney International Shooting Centre
- Primary production businesses, including vegetable growers and intensive animal keeping
- Construction related businesses such as Vac Group Australia, and Western Safety Fences
- Commercial offices of Hi-Quality Group.

### *Impacts on businesses*

During construction, potential impacts on local businesses in the primary study area may result from:

- Increased expenditure by construction workers on local goods and services
- Changes in local access to businesses, and traffic disruptions and delays due to construction activities
- Increased noise, dust and construction traffic, impacting on business amenity.

The construction phase may have a positive effect on some local businesses through increased business in response to day-to-day needs of construction workers. Businesses supplying goods and services to construction may also experience benefits from increased construction activities locally.

Access to businesses near the project would be maintained during construction. Where temporary changes are required, these would be determined in consultation with individual business to ensure that potential impacts are appropriately managed. Access would be maintained to Elizabeth Drive and Mamre Road, although potential delays and disruptions may occur for business customers due to roadworks at Elizabeth Drive and Mamre Road. This may lead to increased travel times for customers and possibly deter some people from making some trips or using affected roads.

Temporary adverse impacts on business amenity may result from construction noise, dust, and traffic at construction compounds and work areas. The effects of these impacts could include impacts on employee productivity, customer interaction, or general business ambience. Local amenity changes are likely to have the greatest impact on businesses that include outdoor dining and retail areas.

#### *Agricultural uses and agribusinesses*

Short-term impacts on rural land and agricultural uses in the primary study area may be associated with:

- Changes to farm infrastructure near the construction footprint, such as fencing and internal roads
- Changes in local access to rural properties, and traffic delays and disruptions due to construction activities
- Increased construction traffic and movement of construction vehicles within the construction footprint, increasing the risk of the spread of weeds and pests between properties
- Increased noise, dust and construction traffic, temporarily impacting the amenity of agricultural properties near the project.

As discussed above in the water use impacts sub-section, some market gardens or other water users within the vicinity of the project may have licences to access water from waterways that may be impacted by the project. Although the project is not expected to extract water from local waterways, operation would increase road runoff volumes and/or velocity and potential changes to flow rates, volumes and flow paths. With the implementation of the management measures (listed in **Section 7.4.6** and **Section 7.9.6**) potential impacts to surface water quality and hydrology is considered to be minor and manageable.

There are five registered groundwater bores within the study area which are used for irrigation, stock and domestic, water supply or commercial/industrial (see **Section 7.10.3**). As described in above in the water use impacts sub-section, the impacts to these water supplies would be minimal and managed by a range of environmental management measures.

As described above in the water use impacts sub-section, water from the farm dams listed in **Table 5-11** may be used for construction works. However, the total volume of water to be used is relatively low (see **Table 7-136**) and would have a minor impact on environmental water availability and flows.

Increased construction traffic, noise and dust may result in short-term changes to local amenity at some agricultural properties near construction works. These are addressed in **Section 7.7**, **Section 7.2** and **Section 8.2** respectively.

The primary study area has undergone change in recent decades and is anticipated to continue to change, with increasing urban development and residential and rural-residential estates and changes to the rural landscape are expected to continue as a result of the development of the Western Sydney Airport and the Western Sydney Aerotropolis. Many rural and agricultural properties within or near the project were identified for future urban uses, including commercial, residential, education and open space uses. The early provision of a key road link with the project would support the orderly transition from existing rural and agricultural uses to future higher intensity urban uses. As such, the project would not have long-term impacts on agricultural land.

#### **Social infrastructure**

##### *Directly affected social infrastructure*

The project would directly impact on about 90 hectares of land within the Western Sydney Parklands, including bushland, walking trails, the Wylde Mountain Bike Trail and associated infrastructure and vehicle access to the International Shooting Centre. Land within the operational footprint would become transport infrastructure and would no longer be available for recreation uses. While this would result in the loss of recreation uses within the operational footprint, it is generally not expected to impact on the operation or functioning of facilities within the wider Western Sydney Parklands.

Where possible, the project corridor was located near Elizabeth Drive and the M7 Motorway, helping to minimise fragmentation of the parkland, although the location of the corridor would result in the isolation of small areas of land along Elizabeth Drive near the intersection of Range Road, which accommodates trails for the Wylde Mountain Bike Trail, and Duff Road.

The Wylde Mountain Bike Trail would be directly impacted by the siting of the operational footprint, including the jump run, pump track, kids loop, sections of the three-kilometre, six-kilometre and 12-kilometre trails and associated facilities, including shelters. The project would result in the permanent loss of facilities and sections of trails within the operational footprint, requiring the redesign and relocation of these facilities. The trail is an important attraction within the Western Sydney Parklands and disruption to these facilities and sections of trails has potential to impact on recreational riders and disrupt national, state and local mountain bike events.

Roads and Maritime is carrying out consultation with the Western Sydney Parklands Trust about impacts of the project on the Wylde Mountain Bike Trail and proposed mitigation measures. The consultation included consideration of options to redesign and relocate the Wylde Mountain Bike Trail, including:

- Option 1 – Roads and Maritime to redesign and relocate the trail as part of the project
- Option 2 – Western Sydney Parklands Trust to redesign and relocate the trail with Roads and Maritime support.

Option 2 was selected as the preferred option as the Trust would be best placed to deliver the replacement trail. This is due to the Trust's knowledge of the Parklands and its user base, its experience in delivering similar infrastructure and its role as the ultimate asset manager.

Roads and Maritime is continuing to work with the Western Sydney Parklands Trust and Bicycle NSW to design, plan and deliver a replacement trail that integrates with existing facilities and future plans for the parklands, helping to minimise long term impacts for users of the mountain bike facility. Planning and delivery of the replacement trail would be undertaken in consultation with trail users and bicycle user groups to help minimise potential impacts on users. The replacement of the trail would be subject to a separate environmental assessment undertaken by Western Sydney Parklands Trust. Redesign and relocation of the Wylde Mountain Bike Trail would occur before the start of construction allowing access to the trails and other facilities to be maintained during construction and helping to reduce disruptions for users. Construction of the project would also directly impact existing walking and cycling trails within the Parklands at Cecil Hills, Abbotsbury, and Horsley Park. During construction, access would be maintained for users of these trails, although temporary diversions may be required at some locations.

During construction, vehicle access to the shooting centre would be maintained, although temporary delays or disruptions may result from works at Range Road. While this may cause inconvenience for some users of the centre, it is not expected to impact on its use for various shooting events or daily use by licensed shooters.

#### *Impacts on social infrastructure within the study area*

The following social infrastructure has the potential to be impacted by the construction of the project:

- Saints Peter and Paul Assyrian Church
- Irfan College
- Kemps Creek Sporting and Bowling Club
- Kemps Creek Cougars Baseball Club
- Science of the Soul Study Centre
- Muhammadi Welfare Association of Australia.



During construction, impacts on social infrastructure in the primary study area may result from:

- Increased noise, dust and construction traffic, impacting on amenity for users and workers of some community services and facilities
- Changes in local access and traffic disruptions and delays due to construction activities.

Assessment of local amenity and character is presented below, while **Section 7.7**, **Section 7.2** and **Section 8.2** present the impacts of construction traffic noise, and dust respectively.

## Community values

### *Local amenity and character*

During construction, adverse changes to local amenity and character for communities and areas near construction works and construction compounds would mainly result from:

- Noise, vibration, dust and traffic from construction activities
- Changes in visual amenity due to the removal of established vegetation and presence of construction works and infrastructure
- Light spill from night-time construction works.

Users of Western Sydney Parklands are also likely to experience changes in amenity from construction activities associated with the operational footprint within the Parklands and the connection to the M7 Motorway. Changes to local amenity resulting from increased noise and dust from construction activities may temporarily impact on individuals' use and enjoyment of homes, businesses and community facilities, particularly within outdoor areas.

The presence of construction activities and construction infrastructure may also impact on visual amenity for some people, through changes to existing views and rural landscapes.

### *Community cohesion*

The study area includes a number of local businesses and community facilities that provide local meeting places and support local networks and social cohesion, for example schools, sporting clubs and facilities within Western Sydney Parklands. During construction, increased noise and dust from construction activities has potential to reduce the amenity of meeting places near construction works and cause temporary disruptions to facilities such as Wylde Mountain Bike Trail. This may temporarily impact people's use and enjoyment of these places, and possibly deter some people from using these facilities.

Delays and disruptions associated with changes to local road access near construction activities and temporary changes to public transport facilities may also discourage some people from making some trips. These changes may impact on some people's participation in local activities and temporarily impact on community interaction.

### *Community health and well-being*

During construction, noise, light spill and dust from construction activities have potential to impact on the health and wellbeing of some residents closest to construction works. The potential for dust from construction activities to impact on the health of some population groups who may be more sensitive to changes in air quality (eg children, elderly, people who suffer from asthma or other respiratory conditions) is likely to be a concern for some communities near construction works.

An increase in construction traffic and heavy vehicles on roads within the primary study area and changes to local traffic and access during construction may impact on community perceptions relating to road safety. Construction traffic management measures would be implemented to maintain safety for pedestrians, cyclists and road users near construction works and on haulage routes. Pedestrian access would be maintained near construction works although temporary changes would be required to some pathways in order to maintain safety of pedestrians.

## *Environmental values*

The project would require the removal of some established vegetation in the construction footprint and construction compounds along the project corridor, including within the Western Sydney Parklands and within creek corridors. The clearing of established vegetation for the project is likely to be a concern for some community members, impacting on values relating to ecology, landscape and scenic amenity. Following construction, areas impacted by construction works that are not required for permanent infrastructure would be rehabilitated, including with new trees and landscaping. Impacts on biodiversity are presented in **Section 7.1**.

## *Access and connectivity*

During construction, impacts on local access and connectivity would generally result from:

- Increased construction traffic on roads within the primary study area, including heavy vehicles used to deliver materials and equipment, and construction worker vehicles
- Temporary changes to road conditions near construction works, including reductions in speed limits, temporary traffic lane closures, and temporary diversions and access changes
- Potential changes to bus services, including from changes to road conditions and the temporary relocation of some bus stops near construction works for safety
- Changes to pedestrian and cycle access near construction works.

These impacts are discussed in **Section 7.2**.

## *Operational impacts*

### *Land use impacts*

#### *Existing land use*

The operational footprint would directly impact about 290.53 hectares of land, including land that would be acquired for the road corridor, local access roads and drainage and ancillary infrastructure.

Land classified as rural and agricultural uses comprises the largest area of land directly impacted by the operational footprint, comprising about 60 per cent of land within the operational footprint (174.36 hectares). This mainly comprises land used for grazing (126.50 hectares) on large property holdings, including within the University of Sydney McGarvie Smith Farm and Fleurs Farms. Other rural and agricultural uses within the operational footprint include:

- About 25.15 hectares of general rural uses
- About 14.96 hectares of land identified for rural residential uses
- About 7.75 hectares of land used for intensive agriculture, including land at Luddenham used for orchard fruit trees and horticulture land at Kemps Creek (irrigated vegetables and herbs).

Urban uses comprise about 60.2 hectares of land within the operational footprint (20.7 per cent) and include commercial/industrial uses, resource and waste facilities, and recreation uses. Recreation uses comprise more than two thirds of urban uses within the operational footprint and mainly includes land within the Western Sydney Parklands.

Environmental areas within the operational footprint include land within water ways and riparian areas of watercourses of South Creek, Cosgroves Creek and Kemps Creek and water infrastructure, such as the Sydney Water canal system at Cecil Park.

Overall, general impacts on existing land uses from the operation of the project are expected to be low. The larger property rural uses surrounding the project are generally able to cater for the project and would continue to operate. Access to existing commercial/industrial, rural living and community uses at Luddenham, Kemps Creek, Mt Vernon and Cecil Park would be maintained through local roads and project interchanges.

#### *Environmental areas*

About 2.79 hectares of land within the project operational footprint for the project comprises rivers or creeks, including Badgerys Creek, South Creek and Kemps Creek. The project would bridge these waterways, although some clearing of existing vegetation would be required within the affected land. The project would also require the clearing of bushland areas within the Western Sydney Parklands. About 2.89 hectares of land within the Western Sydney Parklands biobank site (ID number 119) would be within the project construction footprint, representing about 9 per cent of the total biobank site. The operational footprint would also impact land within a carbon sequestration site near Elizabeth Drive. Further discussion about potential impacts of the project's construction and operation on waterways and biodiversity values is provided in **Section 7.9** and **Section 7.1** respectively.

**Resource and waste facilities** The project would impact about 6.6 hectares of land within the operational footprint that were identified as resource and waste facility uses. The project would be located on land subject to a current exploration licence (EL8429).

Further discussion of potential operational impacts on the business operations of these uses is provided below.

#### *Infrastructure and utilities*

Operation of the project is not expected to impact on infrastructure and utilities in the primary study area.

#### *Future land uses*

Enhanced transport connections for communities, business and industry provided by the project's operation would have a positive impact on planned development areas in western Sydney, supporting future employment and urban land uses surrounding the project.

The project would support the future Western Sydney Airport and the planned Western Sydney Aerotropolis by providing essential road capacity. The project would also provide more efficient and safer access to the South West Growth Area and the Western Sydney Employment Area. A number of major development sites were approved in the primary and secondary study areas. Once operational, the project would have benefits for the construction and operation of major developments associated with improved access and connectivity.

The project would be an important part of the transport network needed to keep the community connected to Greater Sydney. Safer and more efficient access provided by the project would also impact positively on other developments outside of the growth areas in the study areas.

The early provision of a key road link with the project would support future development in the area and the orderly transition from existing rural and agricultural uses to future higher intensity urban uses, including commercial, residential, education and open space uses.

#### *Water use impacts*

The operation of the project would not alter the existing potable water pipelines within the study area. It is not anticipated that any property's potable water access would be impacted during operation.

The project could increase the imperviousness of the catchment, which would lead to increased stormwater runoff. An increase in the catchment area could also occur which would also increase the peak flow rates and volume of runoff to the minor drainage lines.

An increase in flows could result in additional water supply and more frequent overtopping of some farm dams, and potentially increase the risk of flooding, scour and erosion. Conversely, a decrease in flow due to changed flow paths could result in a reduced water supply to some farm dams. As discussed in **Section 7.9**, with the implementation of recommended management measures, the impacts of increased peak flow rates and volume on land and infrastructure downstream would be minimal. During the project's detailed design, further modelling would be carried out to verify the project's impacts on minor drainage lines and to confirm the mitigation strategies.

Some market gardens or other water users within the vicinity of the project may have licences to access water from waterways that may be impacted by the project. Although the project is not expected to extract water from local waterways, operation would increase road runoff volumes and/or velocity and potential changes to flow rates, volumes and flow paths within waterways and drainage lines (as discussed above). With the implementation of management measures (listed in **Section 7.4.6** and **Section 7.9.6**) potential impacts to surface water quality and hydrology is considered to be minor and manageable.

In addition, the design of the project includes operational water quality basins at sensitive receiving environments which are expected to contribute to the improvement of water quality in these locations over time. Therefore the project is not anticipated to have a major impact on these water users.

### Population and demography

Property acquisition for the project would require the demolition of nine dwellings located on rural and rural-residential properties. While the relocation of residents associated with the acquisition of residential properties may result in minor changes to populations of local areas, these changes would represent a very small proportion of the primary study area's population and would not change the population and demography of the primary study area.

The population of the secondary study area is projected to grow in the future, with the growth expected to be driven by the development of the Western Sydney Priority Growth Area and Western Sydney Aerotropolis and would be supported by the operation of the project.

### Employment impacts

the M12 Motorway is being delivered as part of the WSIP. It is estimated that the WSIP would create about 4000 direct and indirect jobs over its (approximate) 10 year duration (Roads and Maritime, 2016a).

The project would support improved access and connectivity to employment areas in the primary study area and wider western Sydney region, including the Western Sydney Priority Growth Area and Western Sydney Airport. In particular, the project would contribute to enhanced road linkages within the western Sydney region, reducing commuting times for the region's growing resident and worker populations, as well as business and industry. Some loss of local employment may result from the acquisition of commercial and rural properties, particularly if businesses choose to cease operations due to property acquisition. This may result in loss of income for affected employees and business owners. Potential impacts on employment due to the relocation of businesses to alternative sites, are likely to be dependent on the businesses new location (ie if alternate premises are found locally or elsewhere) and individual circumstances of employees, for example increased commuting distances and times, and ability of individual employees to travel to the new business location.

### Business and industry impacts

#### *Impacts on businesses*

During operation, the project would have positive impacts on regional and national business and industry through improved access and connectivity to growth areas in western Sydney and the Greater Sydney area. In particular, the project would provide access to the Western Sydney Airport and associated Western Sydney Aerotropolis, catering for future transport needs and creating high capacity traffic and freight links to service future growth of western Sydney and the Western Sydney Priority Growth Area.

Locally, the project would improve road safety and accessibility, supporting general improvements to local business and industry in the primary study area. The project would involve the bypass of Kemps Creek urban area, reducing through traffic using Elizabeth Drive and changing access for some customers of businesses at Elizabeth Drive and Mamre Road. At the eastern end of the project, access to Kemps Creek would be maintained via the existing entry and exit ramps between the M7 Motorway and Elizabeth Drive. From the west, access would be maintained via The Northern Road and Elizabeth Drive. This would allow motorists to continue to travel through Kemps Creek.

Some businesses near the project may experience changes to business amenity from changes in traffic noise and visual values, and reduced traffic using Elizabeth Drive may reduce levels of trade for some businesses

Ensuring local communities and business customers are aware of changes regional access would be important in minimising potential business impacts associated with access changes to Elizabeth Drive and Mamre Road, particularly during the initial operational phase. This may include measures such as the use of appropriate road signage or advertising by the businesses. It is likely that any potential impacts on businesses associated with changes in customer access would reduce over time with regional population and employment growth and as customers and local and regional communities become familiar with the new access arrangements.

#### *Agricultural uses and agribusinesses*

The operational footprint for the project would directly impact on 17 properties used for agricultural activities, including land used for grazing, intensive animal production and horticulture production. This would include direct impacts on about 30.9 hectares of land within The University of Sydney Fleurs Farms and McGarvie Smith Farm, representing about 9.0 per cent of land within this property. At a regional level, the project would have positive impacts on rural land uses and industries through improved access and connectivity, including to freight links and regional growth areas. Access to agricultural properties would be maintained by the project, although access refinements would be required for some properties due to intersection changes, and realignment or truncation of local roads.

Increased traffic noise, light spill from the roadway, and changes to the visual environment may impact on the use and enjoyment of rural properties near the project. This may particularly impact the night-time amenity given the existing relatively low night-time noise and light environment.

#### **Social infrastructure**

##### *Directly affected social infrastructure*

Operation of the project would result in the isolation of small areas of land along Elizabeth Drive, directly impact riding trails for the Wylde Mountain Bike Trail and Duff Road, as well as existing walking and cycling trails within the Parklands at Cecil Hills, Abbotsbury, and Horsley Park. Access trails impacted by the project would be reinstated following construction, although realignments may be required to some trails.

Roads and Maritime is carrying out consultation with the Western Sydney Parklands Trust about impacts of the project on the Wylde Mountain Bike Trail and proposed mitigation measures. The consultation included consideration of options to redesign and relocate the Wylde Mountain Bike Trail, including:

- Option 1 – Roads and Maritime to redesign and relocate the trail as part of the project
- Option 2 – Western Sydney Parklands Trust to redesign and relocate the trail with Roads and Maritime support.

Option 2 was selected as the preferred option as the Trust would be best placed to deliver the replacement trail. This is due to the Trust's knowledge of the Parklands and its user base, its experience in delivering similar infrastructure and its role as the ultimate asset manager.

Roads and Maritime is continuing to work with the Western Sydney Parklands Trust and Bicycle NSW to design, plan and deliver a replacement trail that integrates with existing facilities and future plans for the parklands, helping to minimise long term impacts for users of the mountain bike facility. Planning and delivery of the replacement trail would be undertaken in consultation with trail users and bicycle user groups to help minimise potential impacts on users. The replacement of the trail would be subject to a separate environmental assessment undertaken by Western Sydney Parklands Trust. Redesign and relocation of the Wylde Mountain Bike Trail would occur before the start of construction allowing access to the trails and other facilities to be maintained during construction and helping to reduce disruptions for users. The operational footprint for the project would directly impact on the road access to the Sydney International Shooting Centre. Access to the shooting centre would be maintained, although minor adjustments may be required to the road. This is not expected to impact on the general operation of the shooting centre.

#### *Impacts on social infrastructure within the study area*

During operation, the project would contribute to improved access and connectivity to regional, State and national level community services and facilities within the primary and secondary study areas through improved travel time savings and improved travel time reliability. This includes regional level community services and facilities, such as:

- Educational facilities, such as the University of Western Sydney, TAFE Western Sydney Institute
- Major medical and health care facilities, including hospitals and facilities at the Nepean Hospital campus
- Regional open space, sport and recreation uses in Western Sydney Parklands and central Penrith
- The Western Sydney Airport
- Community support services and service organisations.

This would have long-term beneficial impacts for local communities as well as communities across the broader western Sydney region. Operation of the project has potential to impact on users of social infrastructure located within or near the project through changes in local access and amenity. However, this is not expected to impact on the overall use of these facilities.

#### **Community values**

##### *Local amenity and character*

Potential impacts on local amenity and character from the operation of the project would mainly be associated with:

- Increased traffic noise for communities along the alignment
- Light spill from the project corridor
- Changes to visual amenity from the introduction of new infrastructure.

Changes to amenity from the project's operation may impact on the use and enjoyment of properties along the operational footprint and change the rural character and views from some properties. In particular, traffic noise and light spill from the roadway may impact on the night-time amenity for residents due to the relatively low night-time noise and light environment that currently exists in these areas.

The primary study area has undergone change in recent decades with increased urban development. Changes to the rural character of the primary study area are likely to continue over time as a result of the development of the Western Sydney Airport, Western Sydney Aerotropolis and growth areas. Potential impacts on local amenity and character from the project are likely to reduce over time as further urban development occurs.

Once operational, the project would reduce through traffic, including heavy vehicles, on Elizabeth Drive and through Kemps Creek, impacting positively on local amenity and character. This was raised as a benefit of the project during consultation with local shoppers for this assessment.

### *Community cohesion*

Overall, the project would have positive impacts on community cohesion by supporting efficient and reliable travel and improved accessibility to work, business and leisure activities in the primary study area and broader western Sydney region, helping to facilitate social interactions and economic transactions within the primary study area and wider western Sydney region by supporting development in the surrounding area.

Where access on major routes is constrained, people avoid making trips that have unacceptable travel times. Reduced travel times supported by the project are also likely to make some trips more attractive, helping to facilitate community interaction and providing benefits for community cohesion.

### *Community health and well-being*

The project would provide more efficient connections for communities in the primary and secondary study areas and Greater Sydney region to employment, education facilities, sport and recreation uses, cultural and leisure facilities, and community support services. This would support:

- Improved long-term economic opportunities through improved access to education and employment opportunities
- Enhanced opportunities for social interaction, by making some trips more attractive and encouraging people to take trips they may have otherwise avoided
- Opportunities to increase community wellbeing through improved access to recreation and leisure facilities, including within Western Sydney Parklands.

The provision of a controlled access motorway would help to improve traffic safety for road users. The reduction in through traffic using Elizabeth Drive would also have beneficial impacts on safety for surrounding communities. The inclusion of an off road shared user path as part of the project would also support safer and easier access for pedestrians and cyclists. The provision of safer and enhanced pedestrian and cycling accessibility and connectivity is likely to encourage increased walking and cycling, helping to increase general levels of physical activity and impacting positively on community health outcomes.

### *Environmental values*

Potential impacts of the project's operation on natural features such as creeks and bushland areas may be a concern for some community members. Permanent stormwater detention basins would be established along the project corridor to capture and treat stormwater runoff before it is released into the environment, helping to reduce risks to water quality in creeks and waterways.

### *Access and connectivity*

Once operational, the project would have long-term positive impacts on access and connectivity for local and regional communities, business, and industry as presented in **Section 7.2**.

The location of the project corridor would impact on some local roads near the project, requiring permanent changes, including realignment or closure of some local roads either side of the proposed road corridor as presented in **Section 7.2**. The location of the project corridor would require the closure of the existing access track to water and telecommunications infrastructure at Cecil Hills. Access to these facilities would be maintained via a new access at the intersection of Duff Road and Elizabeth Drive and access over the project corridor. This would increase travel distances to this facility by about 800 metres. Given public access is restricted to the current access, this is not expected to have any impacts on local access and connectivity.

## Evaluation of significance

**Table 7-74** summarises potential socio-economic, land use and property impacts of the project's design, construction and operation following the implementation of management measures provided in **Section 7.4.3**.

Table 7-74 Summary of impact significance

Element	Summary of impact	Impact significance (with mitigation)		
		Sensitivity	Magnitude	Significance
Directly affected properties (within the operational footprint)				
Property impacts	Acquisition of private property	Low	Low	Low
Community cohesion	Disruption to social networks and relationships due to relocation of residents affected by property acquisition	Low	Low	Low
Land use impacts	Direct impact on land use within the operational footprint	Low	Low	Low
	Loss of land used for environmental purposes	Low	Low	Low
	Direct impact on land used for Western Sydney Parklands Biobanking site and carbon sink	High	Low	Mod
	Loss of land used for agricultural purposes	Low	Low	Low
	Impact on rural infrastructure from partial acquisition of land (eg fencing, sheds, dams)	Low	Low	Low
	Severance and/or fragmentation of some rural properties	Low	Low	Low
	Direct impact on infrastructure and utilities within the operational footprint	High	Low	Mod
Population and demography	Population and demography changes associated with property acquisition	Neg	Neg	Neg
Employment	Loss of local employment due to the acquisition of commercial and agricultural businesses	Low	Low	Low
Business impacts	Total acquisition of commercial properties within the operational footprint	Low	Low	Low
	Partial acquisition of commercial properties within the operational footprint	Low	Neg	Neg



Element	Summary of impact	Impact significance (with mitigation)		
		Sensitivity	Magnitude	Significance
Western Sydney Parklands	Loss of recreation land at Western Sydney Parklands within the operational footprint	High	Low	Mod
	Impact on Wylde Mountain Bike Trail due to the location of the project corridor	High	Low	Mod
	Fragmentation of land within Western Sydney Parklands	High	Mod	High-mod
	Impact on access to Sydney International Shooting Centre	High	Neg	Neg
	Impacts on walking and cycling tracks due to the siting of the operational footprint	High	Low	Mod
University of Sydney	Impact on land within The University of Sydney Fleurs Farms and McGarvie Smith Farm	Low	Low	Low
	Fragmentation of land with The University of Sydney Fleurs Farms and McGarvie Smith Farm	Low	Low	Low
Construction phase				
Property impact	Temporary lease of land for construction works	Low	Low	Low
Land use	Temporary disruption to land uses impacted by construction compounds	Low	Low	Low
	Temporary impact on agricultural uses associated with the location of the construction compounds	Low	Low	Low
	Temporary impact on agricultural infrastructure (eg dams, fencing, sheds, etc) from the siting of construction compounds	Low	Low	Low
	Increased risk of the spread of weeds and pests between properties due to the movement of vehicles	Low	Low	Low
Population and demography	Temporary changes due to influx of construction workers	Neg	Neg	Neg
Business impacts	Impacts on business amenity	Mod	Low	Mod-low
	Impacts of construction dust on horticultural businesses	Low	Low	Low
	Impacts on business activities of Kemps Creek Sports and Bowling Club due to the proximity to construction works (eg weddings, outdoor dining)	Mod	Mod	Mod

Element	Summary of impact	Impact significance (with mitigation)		
		Sensitivity	Magnitude	Significance
Social infrastructure	Increased noise, dust and construction traffic impacting on amenity for users and workers of social infrastructure	Mod	Low	Mod-low
	Impact on access to social infrastructure due to changes in local access and traffic disruptions	Mod	Low	Mod-low
	Impact on sport and recreation facilities at Kemps Creek Sports and Bowling Club due to the proximity to construction works (eg bowling greens)	Mod	Mod	Mod
Community values	Changes to local amenity	Mod	Low	Mod-low
	Changes in night-time amenity impacting on health and wellbeing	Mod	Low	Mod-low
	Potential impacts on health due to increase in construction dust	Mod	Neg	Neg
	Impacts on community perceptions relating to road safety	Mod	Neg	Neg
	Removal of established vegetation within the construction footprint	High	Low	Mod
Access and connectivity	Temporary changes to property access near construction works	Mod	Low	Mod-low
	Use of local roads by construction traffic resulting in increased congestion, delays and disruptions	Mod	Low	Mod-low
	Delays and disruptions to bus users due to road changes and temporary relocation of bus stops	Mod	Low	Mod-low
	Changes to pedestrian and cycle paths	Mod	Low	Mod-low
Cumulative impacts	Extended/ increased disruption or disturbance for local communities due to concurrent or subsequent construction projects	Mod	Low	Mod-low
Operational phase				
Property impact	Permanent changes to property access due to closure of local roads	Low	Low	Low

Element	Summary of impact	Impact significance (with mitigation)		
		Sensitivity	Magnitude	Significance
Business impacts	Impacts on businesses due to the bypass of Kemps Creek for traffic that would have otherwise travelled on Elizabeth Drive	Low	Low	Low
	Impacts on business amenity from project operations (eg traffic noise, visual values)	Low	Low	Low
Social infrastructure	Changes in access to social infrastructure due to the bypass of Kemps Creek	Low	Low	Low
	Changes in amenity for Kemps Creek Sports and Bowling Club	Mod	Mod	Mod
Community values	Changes in amenity due to increased traffic noise and light spill	Mod	Low	Mod-low
	Changes to visual amenity	Mod	Low	Mod-low
	Community concerns about impacts on natural features such as creeks and waterways	High	Low	Mod
Access and connectivity	Changes to local access due to road closures	Mod	Low	Mod-low

### 7.4.5 Cumulative impacts

Infrastructure and urban development projects that are planned or under construction in the vicinity of the project are presented in **Table 7-3**. Specifically, a range of other transport infrastructure and urban development projects have started or are planned in or near the primary study area. These include major road infrastructure upgrades associated with the WSIP, the Western Sydney Airport, upgrade of The Northern Road, transport projects such as the Sydney Metro Greater West, and the planned future development of the Western Sydney Aerotropolis.

Interaction with these projects may produce cumulative socio-economic impacts through spatial and temporal proximity. These cumulative impacts may change the social, land use and property impacts or benefits of the project.

During construction, potential cumulative impacts may be associated with:

- Prolonged duration of construction impacts, resulting in:
  - Extended periods of traffic disruptions for motorists, public transport users, pedestrians and cyclists, and commercial vehicle movements
  - Extended periods of impacts on communities in the primary study area, associated with increased noise, dust and traffic, leading to construction fatigue
- Increase in construction traffic, associated with haulage of materials, plant and equipment for the various construction projects, impacting on community perceptions of safety
- Increased demand for construction workers, providing benefits for local workers.

Where construction timeframes for projects occur sequentially, there is potential for disturbance and disruptions for local communities (eg construction noise, dust, traffic delays and disruptions) to occur over extended periods, potentially resulting in construction fatigue for some community members. In relation to construction for the M12 Motorway project, this is likely to be experienced by communities at the western end of the project due to current impacts associated with construction works for the upgrade of The Northern Road and more generally in the primary study area from construction of the Western Sydney Airport.

Urban development, including residential and industrial developments and acquisition of land for the Western Sydney Airport, has resulted in the gradual loss of land available over time for agricultural purposes. Many rural and agricultural properties within or near the project have also been identified for future urban uses, including commercial, residential, education and open space uses. The project's provision of a key road link would support and help to facilitate the orderly transition from existing rural and agricultural uses to future higher intensity urban uses. The acquisition of rural land for the project is also likely to further diminish the availability of land for agriculture in the primary and secondary study areas and potentially impact on community values associated with rural landscapes. However, the contribution of the project to this loss of agricultural land would be relatively minor compared to other developments proposed in the primary and secondary study areas.

Development of the Western Sydney Airport and the Western Sydney Aerotropolis is also likely to result in changes to the types of businesses and the business environment at Kemps Creek over time. New urban development in the surrounding area is also likely to stimulate economic activity that currently does not exist in the project, both during the construction phase of the development and in the longer term. This is likely to off-set any potential impacts on businesses at Kemps Creek associated with the bypass of Kemps Creek and changes in passing trade at Elizabeth Drive and Mamre Road.

During operation, potential cumulative impacts would be associated with the completion of the project and the nearby upgrade of other transport projects such as The Northern Road. These impacts would include improved travel benefits for regional communities, business and industry, including freight.

## 7.4.6 Environmental management measures

The environmental management measures that will be implemented to minimise the socio-economic, land use and property impacts of the project, along with the responsibility and timing for those measures, are presented in **Table 7-75**. Measures to manage amenity impacts associated with traffic, visual amenity, noise and vibration, and dust are provided in **Section 7.2**, **Section 7.3**, **Section 7.7**, and **Section 8.2** respectively.

Table 7-75 Environmental management measures (socio-economic, land use and property)

Impact	Reference	Environmental management measure	Responsibility	Timing
Property acquisition and lease	SLP01	Areas of land leased for the purposes of construction will be reinstated at the end of the lease to at least equivalent standard in consultation with the landowner.	Contractor	During construction
	SLP02	All partial and full acquisitions and associated property adjustments will be carried out in accordance with the requirements of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> and the Land acquisition reform 2016 in consultation with landowners.	Roads and Maritime	Prior to construction
	SLP03	A Personal Manager – Acquisition (PMA) will be appointed to assist landowners and residents who may be affected by acquisition requirements for the project. The PMA will provide ongoing support for relocated persons, including dispute resolution and counselling, and provision of contact information for relevant services.	Roads and Maritime	Detailed design
	SLP04	Property adjustments, including replacement of farm infrastructure (such as fencing) and relocation of property access, prior to work that impact the property will be carried out in consultation with property owners/ business managers.	Contractor / Roads and Maritime	Prior to construction, during construction
Utility impacts	SLP05	The project will be designed with the aim of minimising impacts on existing utilities and services, in consultation with utility owners and/or providers of services where feasible and reasonable.	Contractor / Roads and Maritime	Detailed design
	SLP06	Utility owners and/or providers of services will be identified and consulted with before works start, to determine the requirements for access to, protection of, or relocation of services.  Disruption to existing services will be minimised where feasible and local residents and businesses will be notified before any planned disruption.	Contractor	Prior to construction
Agricultural land use	SLP07	Construction activities will be planned to minimise disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable (eg stock access, access to farm dams, etc) unless otherwise agreed by the landowner.	Contractor	Prior to construction
Social infrastructure	SLP08	Adjustments to facilities in Western Sydney Parklands (eg walking and cycling trails and Sydney International Shooting Centre access) will be carried out in consultation with the Western Sydney Parklands Trust.	Roads and Maritime / Contractor	Prior to construction and during construction
	SLP09	Roads and Maritime will continue to work with Western Sydney Parklands Trust to support their delivery of a replacement for the Wylde Mountain Bike Trail by Western Sydney Parklands Trust.	Roads and Maritime	Prior to construction

Impact	Reference	Environmental management measure	Responsibility	Timing
Impacts on community facilities	SLP10	Ongoing consultation regarding management of potential impacts will be carried out in accordance with the Community Communication Strategy with the following community facilities: <ul style="list-style-type: none"> <li>• Kemps Creek Sporting and Bowling Club</li> <li>• Kemps Creek Cougars Baseball Club</li> <li>• Science of the Soul Study Centre</li> <li>• Muhammadi Welfare Association of Australia</li> <li>• Schools such as Kemps Creek Public School and Christadelphian Heritage College, and Irfran College</li> <li>• Western Sydney Parklands</li> <li>• Sydney International Shooting Centre.</li> </ul>	Roads and Maritime / Contractor	Prior to construction and during construction
Construction fatigue	SLP11	Construction fatigue will be managed in accordance with the Community Communication Strategy.	Roads and Maritime / Contractor	Prior to construction and during construction
Impacts on businesses	SLP12	On-going consultation will be carried out with local business owners that may be impacted during construction (including owners of agricultural businesses) in accordance with the Community Communication Strategy for the project.	Contractor / Roads and Maritime	Prior to construction and during Construction
	SLP13	A business impact risk register will be established and maintained for the duration of construction to identify and manage specific impacts on individual businesses.	Contractor	Prior to construction and during construction