



Transport for NSW/Sydney Airport Corporation Limited

Sydney Gateway Road Project

Environmental Impact Statement/ Major Development Plan

Chapter 1 Introduction

Chapter 2 Location and setting



Environmental Impact Statement / Major Development Plan

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1. Introduction

1.1 Sydney Gateway

Sydney Kingsford Smith Airport (Sydney Airport) and Port Botany are two of Australia's most important infrastructure assets, providing essential domestic and international connectivity for people and goods. Together they form a strategic centre, which is set to grow significantly over the next 20 years. To support this growth, employees, residents, visitors and businesses need reliable access to the airport and port, and efficient connections to Sydney's strategic centres.

The NSW and Australian governments are making major investments in the transport network to achieve this vision. New road and freight rail options are being investigated to cater for the forecast growth in passengers and freight through Sydney Airport and Port Botany. Part of this solution is Sydney Gateway, which comprises the following road and rail projects:

- Sydney Gateway road project (the subject of this document)
- Botany Rail Duplication.

Sydney Gateway (shown on Figure 1.1) will expand and improve the road and freight rail networks to Sydney Airport and Port Botany to keep Sydney moving and growing. The Sydney Gateway road project (shown on Figure 1.2) forms part of the NSW Government's long-term strategy to invest in an integrated transport network and make journeys easier, safer and faster.

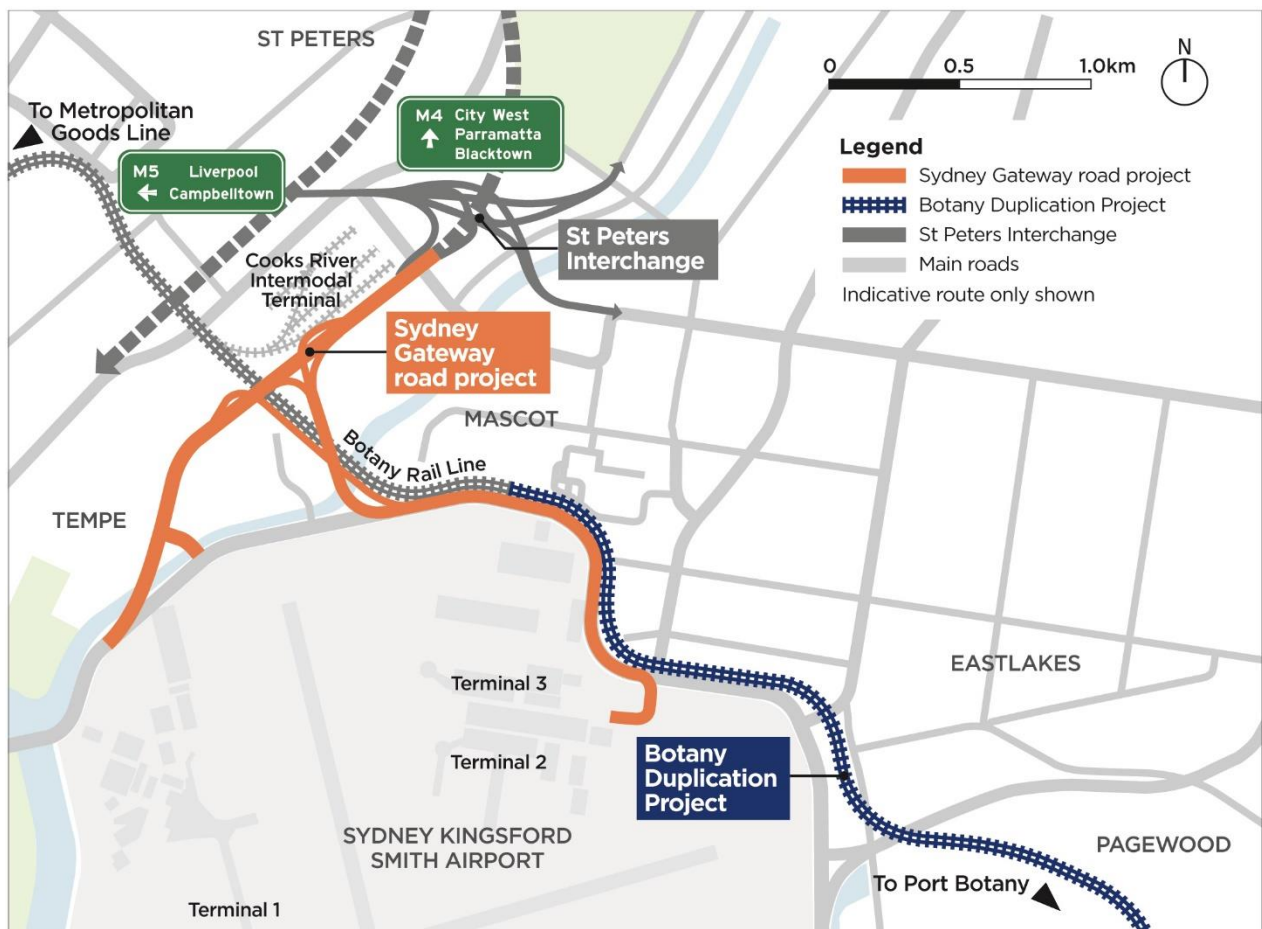
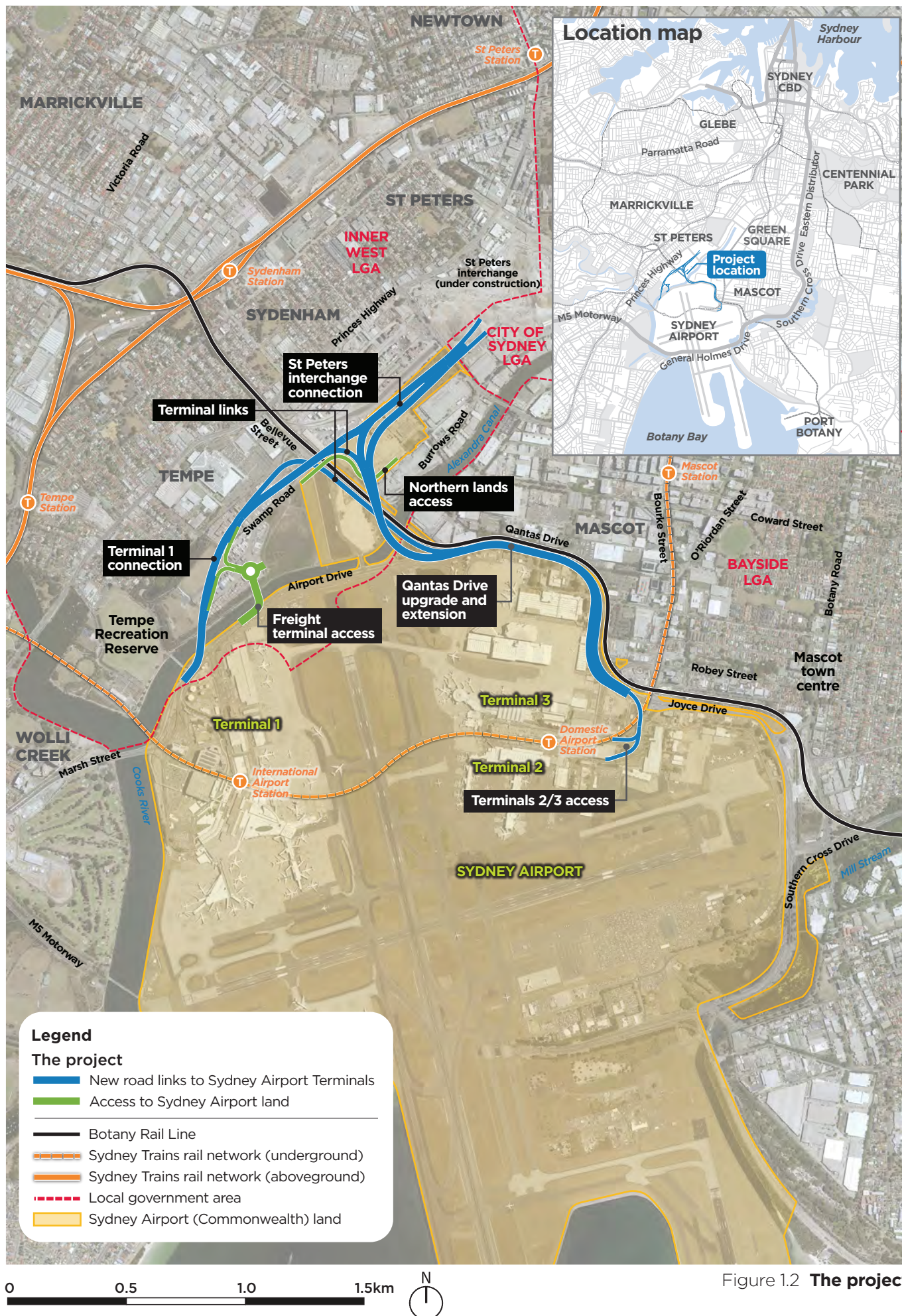


Figure 1.1 Sydney Gateway



1.2 Project overview

Transport for NSW and Sydney Airport Corporation are proposing new direct high capacity road connections linking the Sydney motorway network at St Peters interchange with Sydney Airport's domestic and international terminals and beyond.

The Sydney Gateway road project (referred to as 'the project' for the purposes of this document) would comprise new and upgraded sections of road connecting to the airport terminals. It would also include four new bridges over Alexandra Canal and other operational infrastructure and road connections. The new connections and increased road capacity would help improve traffic flow to and from Sydney Airport and towards Port Botany, making the movement of people and goods easier, safer and faster.

1.2.1 Location

The project is located in the suburbs of Tempe, St Peters and Mascot, in the Inner West, Bayside and City of Sydney local government areas. The location of the project is shown on Figure 1.2.

The location of the project site, which is defined for the purposes of this report as the area that would be directly affected by construction and the location of project infrastructure, is shown on Figure 1.3. The majority of the project site is located on government-owned land, which mainly consists of Commonwealth-owned land (leased to Sydney Airport Corporation) (shown on Figure 1.3). Further information on the location of the project, land ownership and a description of the project site for the purposes of this document is provided in Chapter 2.

1.2.2 Key features

The key features of the project include:

- Road links to provide access between the Sydney motorway network and Sydney Airport's terminals, consisting of the following components:
 - St Peters interchange connection – a new elevated section of road extending from St Peters interchange to the Botany Rail Line, including an overpass over Canal Road
 - Terminal 1 connection – a new section of road connecting Terminal 1 with the St Peters interchange connection, including a bridge over Alexandra Canal and an overpass over the Botany Rail Line
 - Qantas Drive upgrade and extension – widening and upgrading Qantas Drive to connect Terminals 2/3 with the St Peters interchange connection, including a high-level bridge over Alexandra Canal
 - Terminal links – two new sections of road connecting Terminal 1 and Terminals 2/3, including a bridge over Alexandra Canal
 - Terminals 2/3 access – a new elevated viaduct and overpass connecting Terminals 2/3 with the upgraded Qantas Drive
- Road links to provide access to Sydney Airport land:
 - A new section of road and an overpass connecting Sydney Airport's northern lands on either side of the Botany Rail line (the northern lands access)
 - A new section of road, including a signalised intersection with the Terminal 1 connection and a bridge, connecting Sydney Airport's existing and proposed freight facilities on either side of Alexandra Canal (the freight terminal access)
- An active transport link, about 1.3 kilometres long and located along the western side of Alexandra Canal, to maintain connections between Sydney Airport, Mascot and the Sydney central business district

- Intersection upgrades or modifications
- Provision of operational ancillary infrastructure including maintenance bays, new and upgraded drainage infrastructure, signage and lighting, retaining walls, noise barriers, flood mitigation basin, utility works and landscaping.

Further information on the project's features is provided in Chapter 7.

1.2.3 Timing

Construction is planned to start in mid 2020, subject to approval of the project, and is expected to take about three and a half years to complete. Further information on construction is provided in Chapter 8.

1.3 Overview of approval requirements

The project is subject to approval under NSW and Commonwealth legislation. Parts of the project located on Commonwealth-owned land leased to Sydney Airport Corporation (Sydney Airport land) (shown on Figure 1.3) are subject to the *Airports Act 1996* (Cth) (the Airports Act). In accordance with the Airports Act, these parts of the project are major airport development. A major development plan (MDP), approved by the Australian Minister for Infrastructure, Transport and Regional Development, is required before a major airport development can be undertaken at a leased airport.

Parts of the project located on other land (shown on Figure 1.3) have been declared State significant infrastructure in accordance with the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and *State Environmental Planning Policy (State and Regional Development) 2011*. As State significant infrastructure, these parts of the project need approval from the NSW Minister for Planning and Public Spaces. An environmental impact statement (EIS) is required to support the application for approval for State significant infrastructure under the EP&A Act.

The project was gazetted as critical State significant infrastructure (under section 5.13 of the EP&A Act) on 15 May 2020.

Further information on the approval process is provided in Chapter 3.

1.4 Purpose and structure of this EIS and MDP

This document provides a combined EIS and MDP to support the application for approval of the project in accordance with NSW and Commonwealth legislative requirements. It addresses:

- The environmental assessment requirements of the Secretary of the (then) Department of Planning and Environment (the SEARs) dated 15 February 2019 (refer to Appendix A)
- The EIS form and content requirements of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (refer to Appendix B)
- The requirements of Section 91 of the Airports Act (refer to Appendix C), including establishing the details of the major airport development.

The main EIS/ MDP document is structured in three parts as follows:

Part A Background and project description – including:

- An introduction to the environmental assessment (Chapter 1)
- A description of the project site and the general environment of the study area within which the project would be located (Chapter 2)
- An overview of the statutory context and approval requirements for the project (Chapter 3)
- A summary of the consultation that has occurred to date, and the consultation proposed during public exhibition, detailed design and delivery (Chapter 4)

- An overview of the strategic context and need for the project (Chapter 5)
- A summary of the project background and alternatives, and the options and refinements considered and undertaken during the design process (Chapter 6)
- A description of the project's operational features (Chapter 7)
- A description of the indicative construction methodology and activities (Chapter 8).

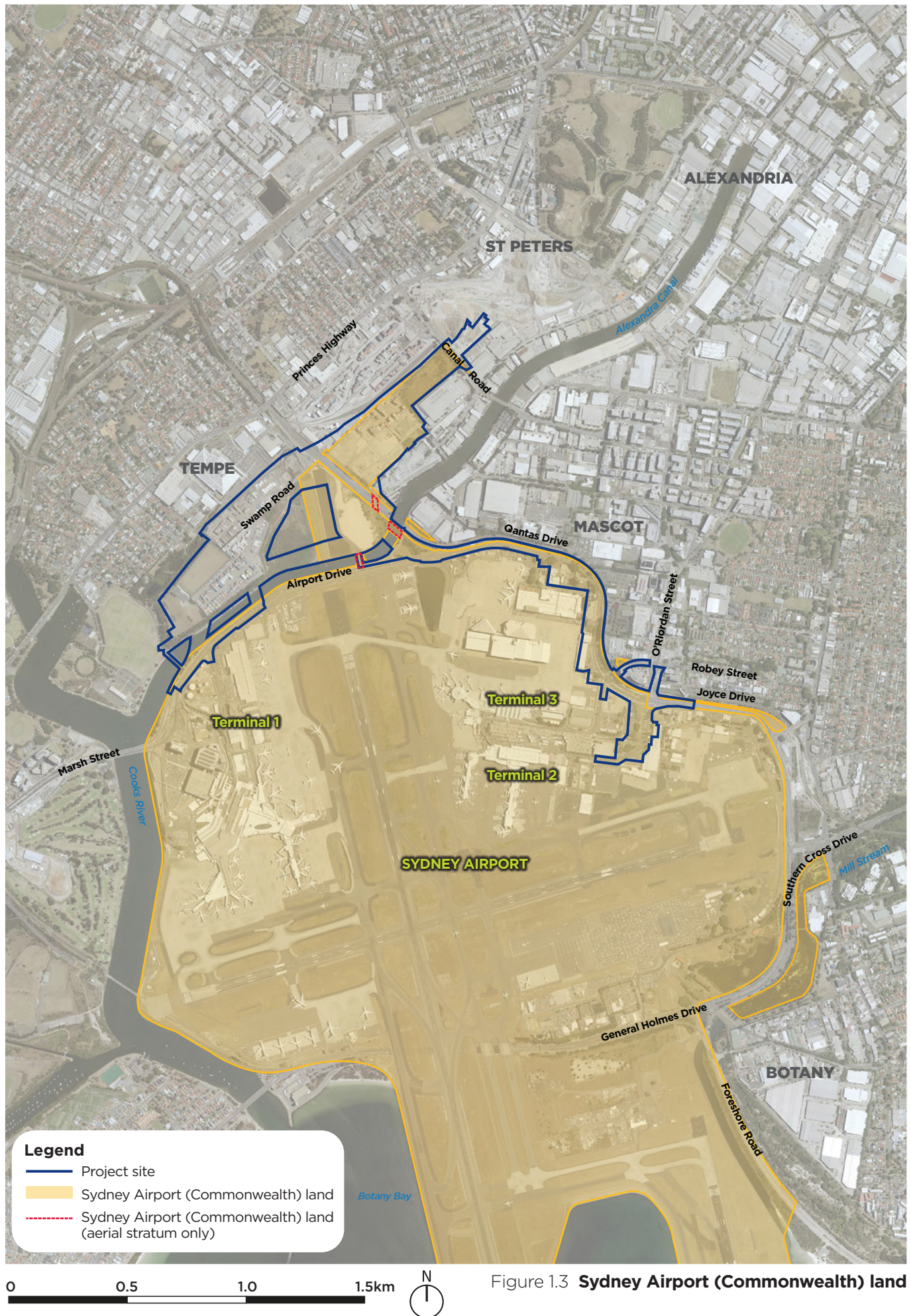
Part B Environmental assessment – including:

- The results of the assessment of environmental issues identified by the SEARs and MDP requirements, including information on the existing environment, potential construction, operation and cumulative impacts, and the proposed approach to mitigation and management (Chapters 9 to 26).

Part C Synthesis and conclusion – including:

- A summary of the key potential impacts of the project, a description of the proposed approach to environmental management, a compilation of the mitigation measures, the outcomes the proponent will achieve and the uncertainties that still existing (Chapter 27)
- Conclusion and justification for the project, including a succinct description of the project for which approval is sought and the reasons justifying carrying out the project (Chapter 28).

Other volumes provide supporting technical working papers, which provide detailed assessments of the potential impacts of the project as they relate to the key environmental issues.



Chapter 2

Location and setting

This document assesses the potential impacts of the project on the project site and, where relevant, the broader study area. This chapter describes the project site and study area for the purpose of the impact assessment, including a summary of its general biophysical and cultural (community, land use and socio-economic) environment. This chapter also defines those parts of the project and project site that are subject to the different approval requirements under the Airports Act and the EP&A Act. Further information on the existing environment as it relates to each individual issue is provided in Part B.

The SEARs addressed in this chapter are listed below. There are no MDP requirements specifically relevant to this chapter. Full copies of the SEARs and MDP requirements, and where they are addressed in this document, are provided in Appendices A and B respectively.

Reference	Requirement	Where addressed
General standard SEARs		
2	Environmental Impact Statement	
2.1	The EIS must include, but not necessarily be limited to, the following: (i) a concise description of the general biophysical and socio-economic environment that is likely to be impacted by the proposal (including offsite impacts). Elements of the environment that are not likely to be affected by the proposal do not need to be described.	This chapter

2. Location and setting

2.1 The project site for the purposes of the assessment

2.1.1 General description

The term 'project site' is used in this document to refer to the area that would be directly disturbed by construction and operation of the project. It includes the location of construction activities, compounds and work/disturbance areas (the construction footprint), and the location of permanent operational road and associated infrastructure (the operational footprint). The project site is shown on Figure 2.1 to Figure 2.5.

The project site is located about eight kilometres south of the Sydney central business district. The northern extent of the project site is located at St Peters interchange. The project site extends to the south-west in Tempe and crosses Alexandra Canal. The western extent of the project site is located near the entrance to Terminal 1 (the International Terminal) on Airport Drive. The project site also crosses Alexandra Canal further to the north and extends to the east in Mascot. The eastern extent of the project site is located in Joyce Drive near the entrance to Terminals 2/3 (the Domestic Terminals).

2.1.2 Land ownership

The majority of the project site is owned by the Commonwealth and leased to Sydney Airport Corporation. Other land in the project site is owned by the NSW and local governments (including Inner West Council) and private landowners (including Sydney Airport Corporation). Broad patterns of land ownership within the project site are shown on Figure 2.6.

Acquisition or leasing of government-owned land would be required to construct the project and locate some of the operational infrastructure. Further information on the project's land requirements is provided in sections 7.11 and 8.4.

2.1.3 Parts of project site subject to the Airports Act / EP&A Act

The parts of the project site that are subject to the Airports Act (referred to as 'Sydney Airport land' for the purposes of this document) are shown on Figure 2.1 to Figure 2.5. This includes the area between Bellevue Street and Canal Road in St Peters, and the area to the east of Alexandra Canal in Mascot, including Qantas Drive and Airport Drive. The features of the project located in, and the construction activities that would be undertaken in, this area are subject to the Airports Act. The EP&A Act does not apply to these areas.

Other parts of the project site that are not Sydney Airport land are subject to the EP&A Act (referred to as 'land subject to the EP&A Act' for the purposes of this document). This includes the area to the north of Canal Road in St Peters and the area to the south of Bellevue Street in Tempe (shown on Figure 2.1 to Figure 2.5). The features of the project located in, and construction activities that would be undertaken in, this area are subject to the EP&A Act.

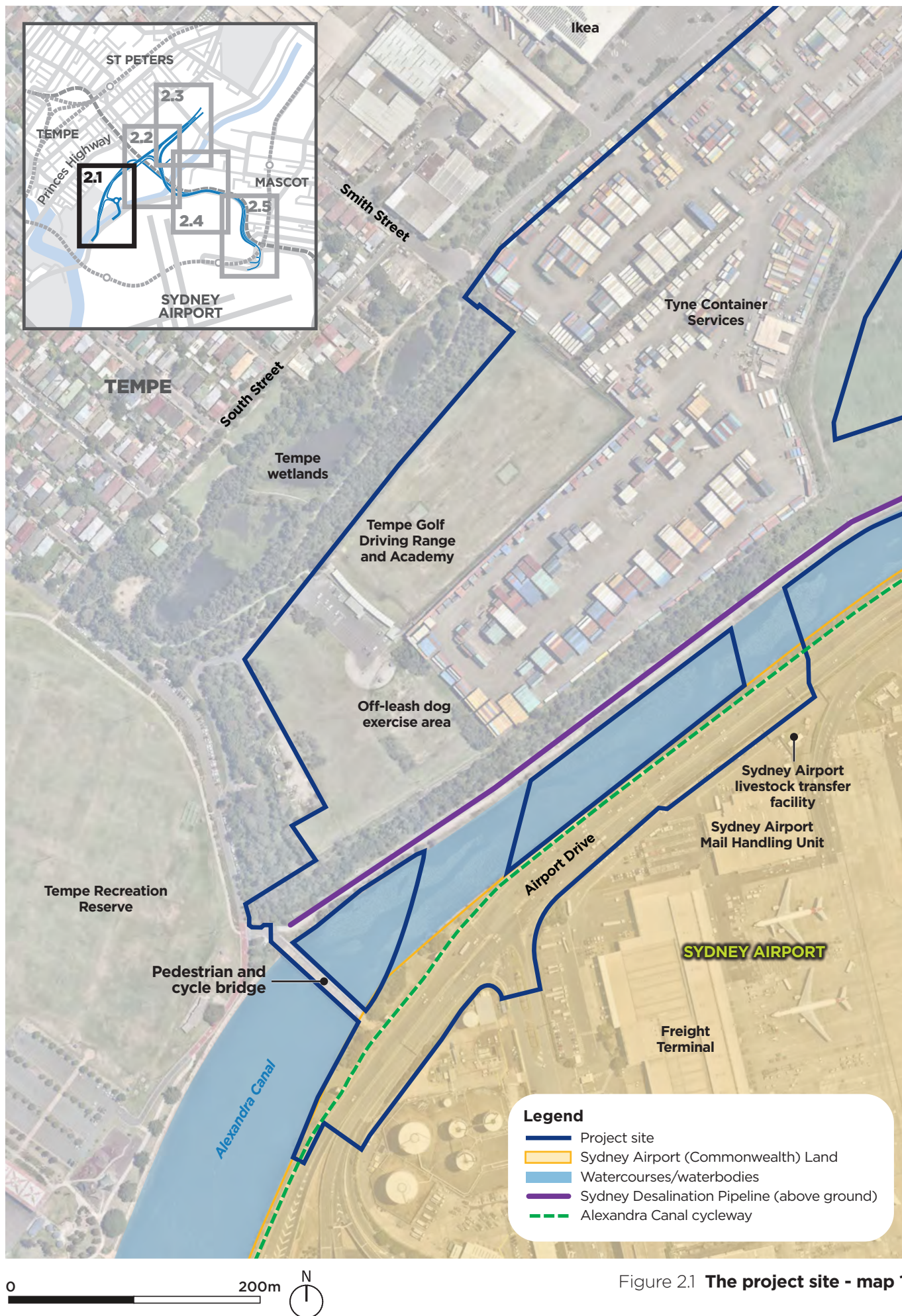


Figure 2.1 The project site - map 1

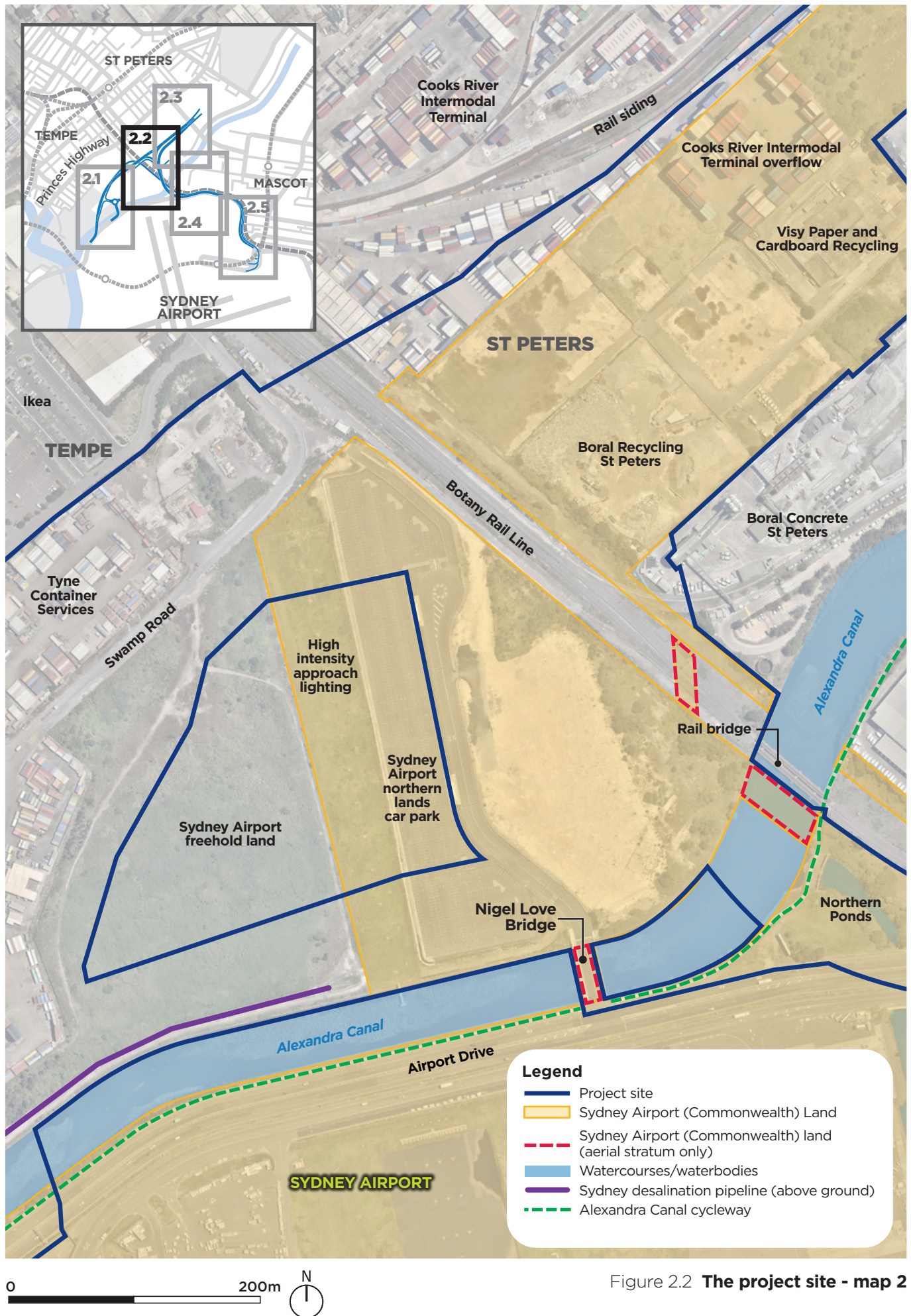


Figure 2.2 The project site - map 2

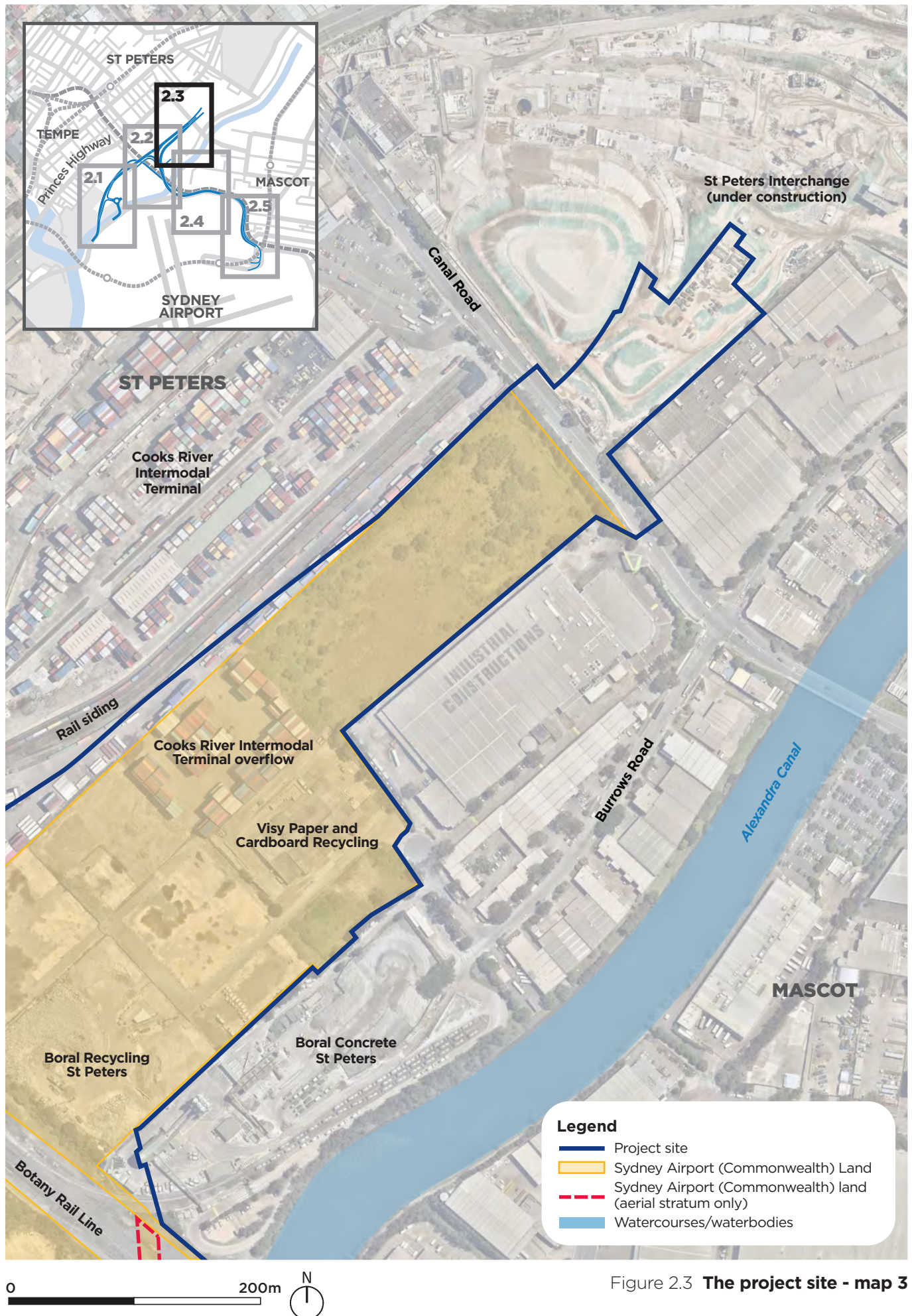


Figure 2.3 The project site - map 3

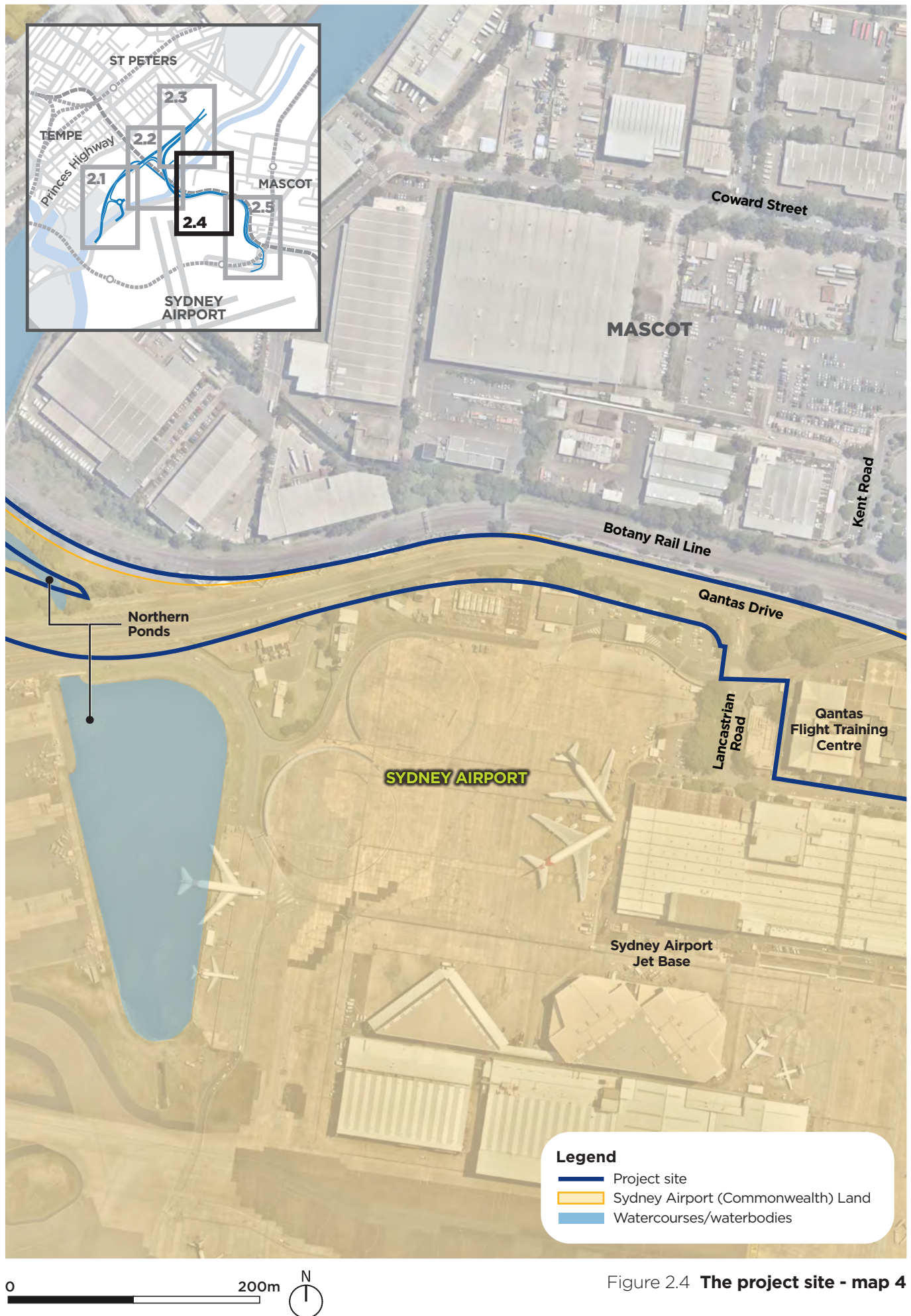


Figure 2.4 The project site - map 4

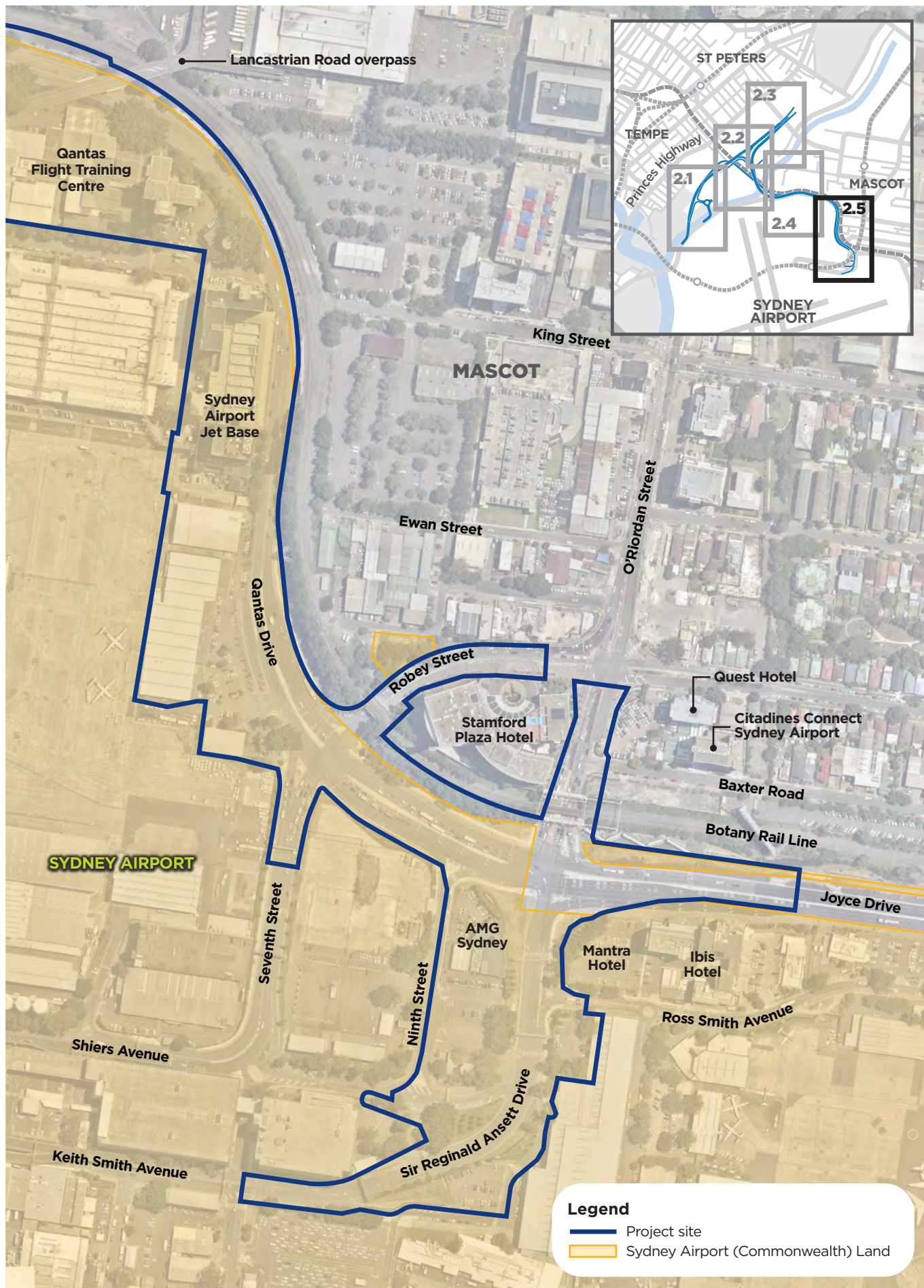


Figure 2.5 The project site - map 5

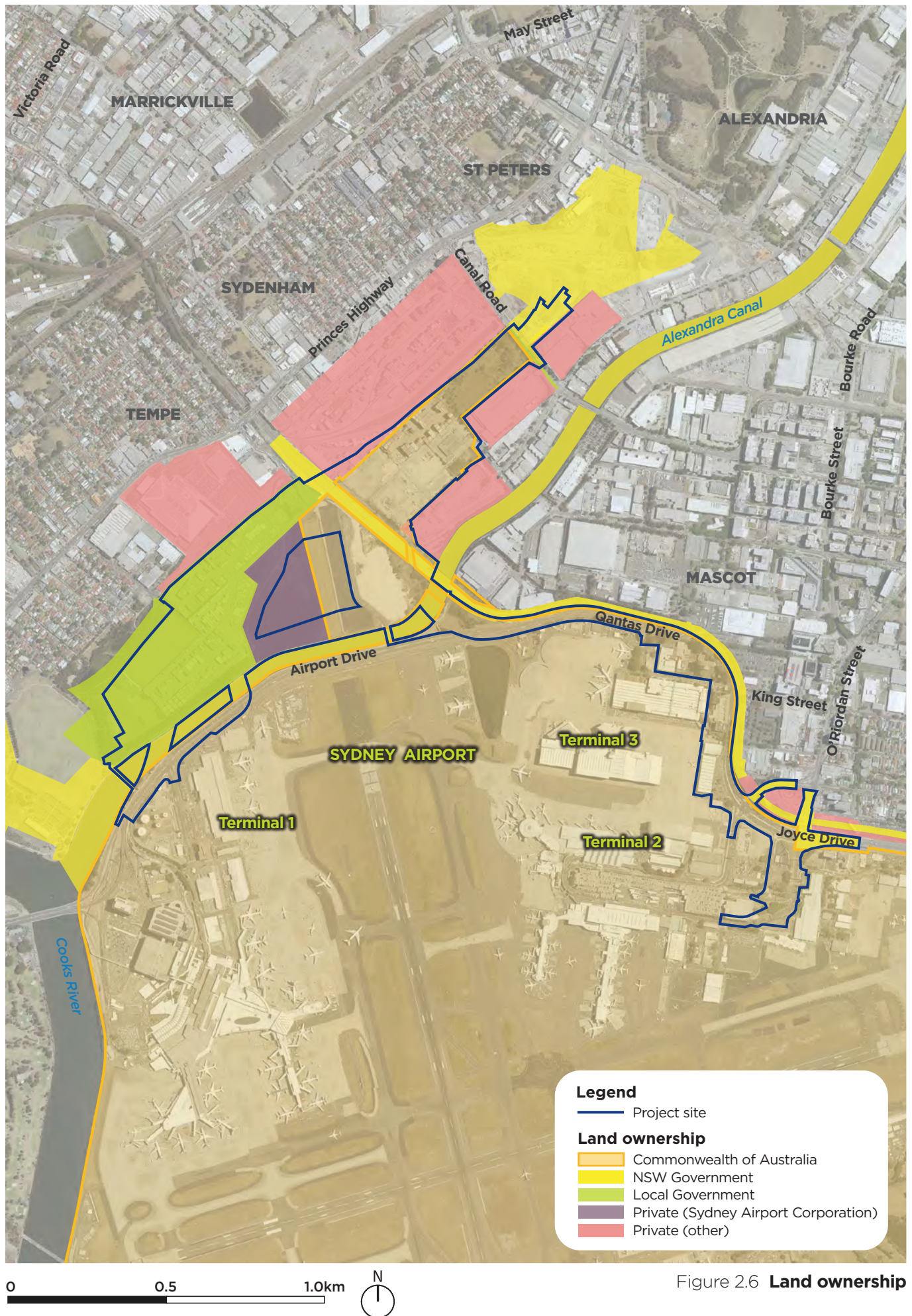


Figure 2.6 **Land ownership**

2.2 Biophysical and socio-economic environment

A general description of the social, cultural and biophysical environment of the project site and surrounding area is provided in sections 2.2.1 and 2.2.2. Key features are shown on Figure 2.1 to Figure 2.5.

2.2.1 General social and cultural environment

Transport infrastructure

The study area includes a variety of significant transport infrastructure. An overview of the key transport features in the vicinity of the project site is provided below.

Sydney Airport

Sydney Airport is one of Australia's most important pieces of transport infrastructure. The Sydney Airport site covers 907 hectares of land in Mascot. The majority of the site (900 hectares) is Commonwealth-owned land leased from the Australian Government. Sydney Airport Corporation owns the other seven hectares.

The airport consists of three main passenger terminals:

- Terminal 1 – Sydney Airport's International Terminal
- Terminal 2 – one of Sydney Airport's two Domestic Terminals, used by a number of domestic and regional airlines including Virgin Australia, Jetstar and Regional Express (Rex)
- Terminal 3 – Qantas's Domestic Terminal.

Associated activities and infrastructure, such as landside access roads, car parking and utilities support the operation of the terminals.

Freight facilities and service providers occupy about 13.7 hectares of the airport site. Freight facilities are operated by various service providers, also known as cargo terminal operators.

The majority of the airport site is occupied by the aircraft movement areas, which include the three runways, taxiways, apron areas and engineering facilities.

A series of high intensity approach lights, which assist with the navigation of planes on approach to the main north–south runway, are located north of the runway on the eastern side of Alexandra Canal and along a strip of land on the western side of the canal to the south of Swamp Road.

Land use and development at Sydney Airport is guided by the *Sydney Airport Master Plan 2039* (SACL, 2019a). Further information on the Master Plan is provided in section 3.6.

The airspace around Sydney Airport is subject to controls (under the Airports Act and the Airports (Protection of Airspace) Regulations 1996) to restrict structures and/or other obstructions and obstacles from affecting the safe operation of aircraft. This protected airspace is formally known as the 'prescribed airspace', and includes:

- The obstacle limitation surface (OLS), which defines the lower limits of an airport's airspace, which should be kept free of obstacles during the initial and final stages of flight or manoeuvring
- The Procedures for Air Navigation Services – Aircraft Operations surface (PANS-OPS), which protects aircraft flying into and out of the airports when the flight is guided solely by instruments in conditions of poor visibility (generally situated above the OLS)
- Navigation aids protected surfaces
- High intensity approach lights protected surfaces – these lights are installed near the approach end of a runway to guide aircraft in to the runway, particularly at night and during poor weather
- Radar terrain clearance chart surfaces.

Further information about the approval requirements under the Airports Act and the aviation safety environment at Sydney Airport are provided in section 3.2 and Chapter 11 (Airport operations) respectively.

Roads

A number of classified main roads are located in the study area, including the M5, General Holmes Drive and Southern Cross Drive (part of the M1), O’Riordan Street, Robey Street, Botany Road and Canal Road.

In addition to providing access to Sydney Airport and Port Botany, the roads around Sydney Airport also play an important role in providing a key east–west link within the regional road network.

Other roads within, and in the vicinity of, the project site include Qantas Drive, Airport Drive and Sir Reginald Ansett Drive, which are located on Sydney Airport land, and Swamp Road and Bellevue Street, which are local roads managed by Inner West Council.

Botany Rail Line

The Botany Rail Line forms part of the Sydney Metropolitan Freight Network, which is a dedicated freight only rail network operated by the Australian Rail Track Corporation (ARTC). The line is an important freight facility in the study area, moving containers between Port Botany, Cooks River Intermodal Terminal and other intermodal terminals in metropolitan Sydney.

The Botany Rail Line is located adjacent to, or in the vicinity of, parts of the project site (with some parts of the rail corridor located in the project site as shown on Figure 2.1 to Figure 2.5).

Freight transport facilities

Sydney Airport is one of Australia’s most significant transport and logistics hubs, handling about 643,000 tonnes of air freight per annum in 2017, with this forecast to increase to about one million tonnes by 2039 (SACL, 2019a).

Port Botany, which is located about five kilometres to the south of the southern extent of the project site, plays a major role in terms of the movement of freight (particularly container freight) in Sydney, NSW and Australia.

The other major freight facility in the study area is the Cooks River Intermodal Terminal in St Peters (shown on Figure 2.3). The terminal provides a range of functions. It uses road and rail to transfer containers to and from Port Botany and regional NSW, and provides container storage.

Another freight related facility in the project site is Tyne Container Services. Tyne provides container related services, including repair and storage.

Public and active transport

The Sydney Trains T8 Airport and South Line, which is operated by Sydney Trains, passes through the study area via a tunnel. A number of bus routes operate along key roads within and around the project site, with routes 400 and 420 servicing terminals at Sydney Airport.

Several designated cycleways and shared paths are located within the study area. This includes the Alexandra Canal Cycleway, which is a dedicated off-road shared path that extends along Alexandra Canal adjacent to Airport Drive.

Further information on the local traffic and transport environment in the vicinity of the project site is provided in Chapter 9 (Traffic, transport and access).

Land use and property

The study area includes a varied and relatively dense mix of land uses. Sydney Airport is by far the dominant land use in the study area. In addition to Sydney Airport and the transport uses described above, the study area also includes a range of commercial and industrial land uses located on either side of Alexandra Canal, broadly to the east of the Princes Highway in St Peters and to the west of O'Riordan Street in Mascot. Commercial and industrial uses in Mascot include a number of airline and freight related businesses and premises, including various Qantas support services. The commercial and industrial area in Mascot extends north through Alexandria towards the Sydney central business district. This area is interspersed with medium density apartment developments.

A range of commercial uses are located along the Princes Highway north of Smith Street in Tempe. These include Ikea, which is located adjacent to the project site.

The main areas of residential land uses are located to the west and east of the project site in Tempe and Mascot. The closest residences are located about 40 and 70 metres from the project site in Tempe and Mascot respectively. Some areas in Mascot to the north of the project site are undergoing urban renewal and redevelopment, with a number of medium density residential and mixed use developments completed and underway. Areas of high density residential development are also located further to the south-west of the project site at Wolli Creek.

A number of hotels are located in Mascot and at Sydney Airport, including in the immediate vicinity of the project site. These include the Stamford Plaza, Ibis Budget Sydney Airport, Mantra, Citadines and Quest hotels, which are located close to the intersection of O'Riordan Street, Qantas Drive and Sir Reginald Ansett Drive.

Open space and recreation facilities are located at the Tempe Recreation Reserve and Tempe Lands in the vicinity of the south-western end of the project site. Tempe Lands consists of land owned by Inner West Council that was part of the former Tempe landfill site (see Figure 2.7). The land was remediated and now contains open space and recreation facilities (including the Tempe Golf Range and Academy, an off-leash dog exercise area, Tempe Wetlands and an open grassed area).

A number of large advertising signs/billboards are located within and adjacent to the project site, along Qantas Drive, Airport Drive, Joyce Drive and Sir Reginald Ansett Drive.

Main land uses within the project site

To the east of Alexandra Canal the majority of the project site is located on land used for transport purposes, including Airport Drive, Qantas Drive, and land occupied by the Jet Base at Sydney Airport on Qantas Drive.

To the west of Alexandra Canal, land within the project site is zoned mainly for industrial and transport related uses. This includes the Sydney Airport 'northern lands', which consists of land leased and owned by Sydney Airport Corporation, located between Canal Road and Alexandra Canal (occupying an area of about 27 hectares). This land is largely undeveloped, with the exception of the Sydney Airport northern lands car park and the high intensity approach lights. Some areas within the northern lands (north of the Botany Rail Line) are leased to private businesses.

There are also some smaller areas of land zoned for recreation within the south-western end of the project site within the Tempe Lands (land owned by Inner West Council).

Further information on land use within and in the vicinity of the project site is provided in Chapter 19 (Land use and property).

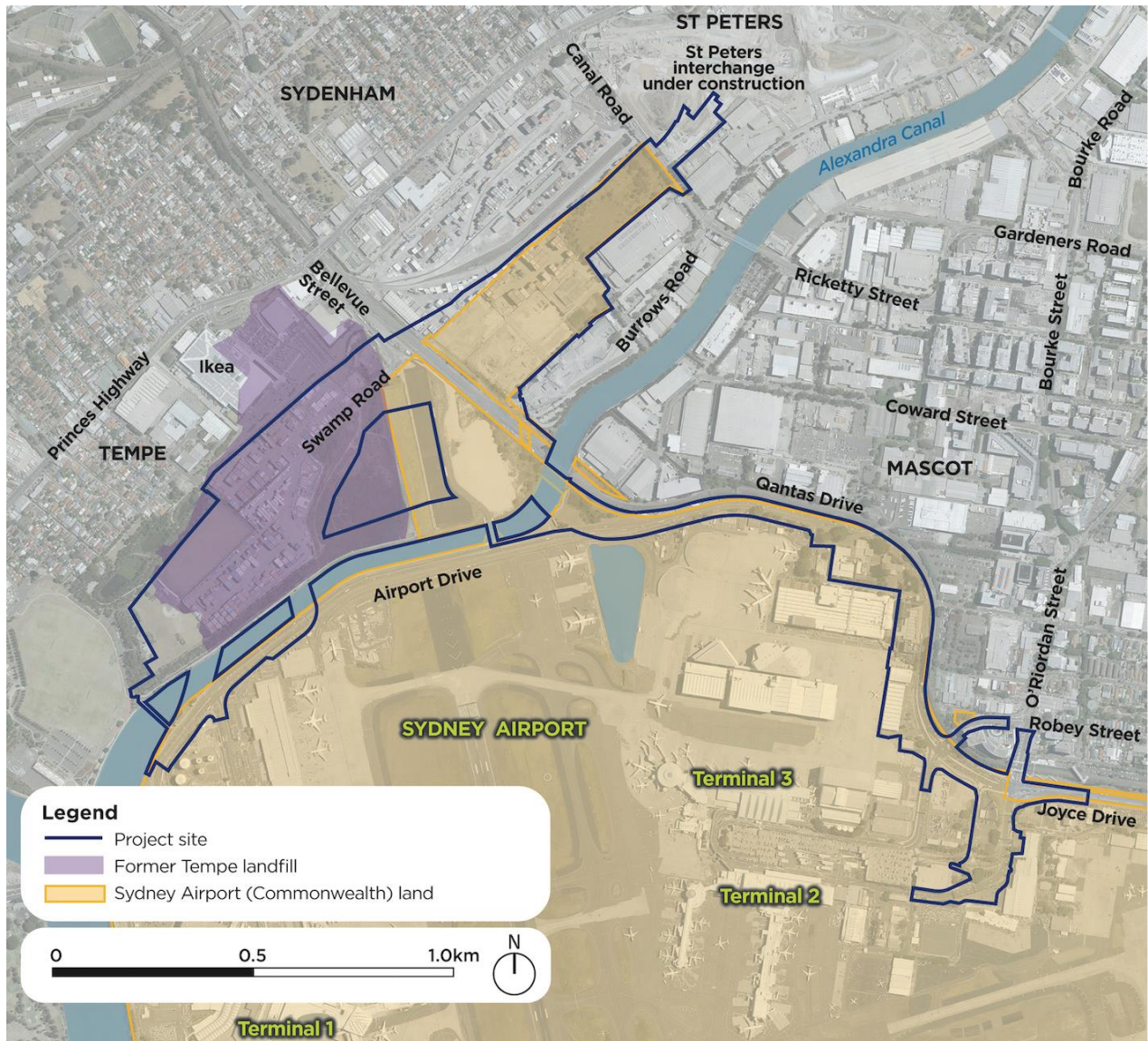


Figure 2.7 Extent of the former Tempe landfill

Social and economic characteristics

The project site is located within three suburbs (St Peters, Tempe and Mascot) in the Inner West, Bayside and City of Sydney local government areas. The three local government areas are characterised by near-city suburbs, with substantial industrial and commercial areas, major transport infrastructure and a wide range of housing styles and densities. A number of suburbs in the local government areas, including Mascot, are undergoing urban renewal.

The area around and including Sydney Airport and Port Botany is one of the largest employment areas in Sydney. Further information on the economic significance of the airport and port, including the predicted growth in passengers, freight and employment driving the need for the project, is provided in Chapter 5 (Strategic context and project need).

Further information on the social, business and economic environment is provided in Chapter 20 (Socio-economic impacts).

Heritage

Non-Aboriginal heritage

The study area has a long history of settlement and development, with significant historical features and activities, including:

- Agriculture
- Residential and industrial development
- Modification of the Cooks River and Sheas Creek
- Dredging and reclamation
- Sydney's drinking water supply
- Development of Sydney Airport and other transport infrastructure.

One listed item of State and local heritage significance, Alexandra Canal, is located within the project site. Four other locally listed items are located within/adjacent to the project site – the 'Cooks River Container Terminal', 'Sydney (Kingsford Smith) Airport Group', 'Mascot (Robey Street) Underbridge' and the 'Mascot (O'Riordan Street) Underbridge'.

Further information on non-Aboriginal heritage is provided in Chapter 17 (Non-Aboriginal heritage).

Aboriginal heritage

There are no listed Aboriginal heritage sites located within or in the vicinity of the project site. Two areas with sub-surface Aboriginal archaeological potential are located within and in the vicinity of the project site.

Further information on Aboriginal heritage is provided in Chapter 18 (Aboriginal heritage).

2.2.2 General biophysical environment

Soils

Reclamation and stabilisation of the Sydney Airport site and surrounding areas have had a significant impact on geology and landforms in the study area. These activities altered the original southern drainage channel networks of Sheas Creek and Cooks River, which were diverted around the airport. Other influences on landform included landfill activities and extensive cut/fill works.

The study area is located in the Botany Basin, which is a subregion of the Sydney Basin. The underlying geology consists of Triassic Hawkesbury Sandstone and Ashfield Shale overlain by Quaternary sediments (the Botany Sands).

Soil landscapes within the study area predominantly consist of disturbed terrain. There are also areas of residual Blacktown soil landscape and the Tuggerah soil landscape. Most of the low-lying areas surrounding Alexandra Canal are mapped as potentially containing acid sulfate soils. Most of the study area is classified as having low salinity potential, although there are areas of high salinity potential.

Further information on soils is provided in Chapter 13 (Contamination and soils).

Water

The study area is located in the Botany Bay catchment area, which includes two river catchments – the Cooks River catchment and the Georges River catchment. Some areas within the Botany Bay catchment also drain directly to the bay.

Alexandra Canal is one of the main tributaries of Cooks River and is the main watercourse in the vicinity of the project site.

A constructed pond is located on Sydney Airport land adjacent to the project site. The pond provides a flood detention/mitigation and spill control function. The project site crosses the channel that connects the pond to Alexandra Canal.

The Tempe Wetlands, located in Tempe Lands, also provide temporary detention for flood waters.

Much of the project site is located above the Botany Sands aquifer which is an unconfined and highly permeable aquifer. The groundwater within the aquifer is relatively shallow (about one to two metres below the ground surface).

Preliminary modelling indicates that a number of low-lying areas within the project site are prone to flooding during a 100 year average recurrence interval storm event.

Further information on hydrology and flooding, groundwater and water quality are provided in Chapters 14 to 16.

Contamination

Three contaminated sites listed by the NSW Environment Protection Authority (EPA) are located within and adjacent to the project site:

- The former Tempe landfill
- Alexandra Canal Sediments
- Cooks River Intermodal Terminal.

Other identified areas of contamination include:

- Areas within the Sydney Airport northern lands, including the existing car park
- Operational areas within Sydney Airport.

Groundwater in the study area is particularly vulnerable to contamination as a result of the permeability and shallow depth of the Botany Sands aquifer. Groundwater in parts of the study area is contaminated and some areas are subject to a Temporary Water Restrictions Order. In addition, the results of sampling within the study area have indicated the presence of contaminants (including per-and poly-fluoroalkyl substances (PFAS)) within groundwater.

Other potentially contaminating activities and land uses are located within or around the project site. Further information on contamination is provided in Chapter 13 (Contamination and soils).

Biodiversity

Most of the study area consists of disturbed land, which has been subject to historical vegetation clearing. The majority of vegetation comprises exotic or planted native species on highly modified landforms. Only a small proportion of the vegetation in the project site (0.91 hectares) comprises native vegetation. This vegetation does not represent a listed threatened community.

No threatened flora species were recorded during field surveys. Two threatened fauna species, the Eastern Bentwing-bat and the Grey-headed Flying-fox, were identified during field surveys within the Tempe Wetlands and also flying over the project site.

Further information on biodiversity is provided in Chapter 22 (Biodiversity).