

# WestConnex M4-M5 Link

## Addendum State significant infrastructure application report

**September 2016**

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# Abbreviations and Glossary

AHIMS	Aboriginal Heritage Information Management System
CBD	Central Business District
DP&E	NSW Department of Planning and Environment
EIS	Environmental impact statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i> (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
Interchange	A grade separated junction or overpass to separate road, rail or other traffic that cross each other, so that crossing movements do not conflict
Iron Cove Link	A tunnel connection from the southern abutment of the Iron Cove Bridge to the proposed Rozelle interchange
LEP	Local Environmental Plan
LGA	Local government area
M4 East	A part of the WestConnex program of works – Homebush Bay Drive, Homebush to Parramatta Road and City West Link (Wattle Street) at Haberfield
New M5	A part of the WestConnex program of works – King Georges Road at Beverly Hills to St Peters
OEH	NSW Office of Environment and Heritage
PAD	Potential Archaeological Deposit
REF	Review of Environmental Factors
Roads and Maritime	NSW Roads and Maritime Services
Rozelle interchange	The proposed project site (during construction and operations) located at the Rozelle Rail Yards providing north-south and east-west connectivity across the project. Connectivity includes the motorway, local roads and active transport. The project site will comprise tunnel portals, grade separation of roads, interconnecting carriageways, ventilation facilities, a control centre, and associated offices and maintenance facilities.
SEARs	Secretary's Environmental Assessment Requirements
SEPP	NSW State environmental planning policy
SSIAR	State significant infrastructure application report
The project	M4-M5 Link

Threatened	As defined under the <i>Threatened Species Conservation Act 1995</i> (NSW). A species, population or ecological community that is presumed to be extinct (not recorded in its known or expected habitat within a determined time frame), likely to become extinct or is in immediate danger of extinction
TSC Act	<i>Threatened Species Conservation Act 1995</i> (NSW)

# Contents

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<b>Abbreviations and Glossary.....</b>	<b>i</b>
<b>Contents .....</b>	<b>iii</b>
List of Tables.....	iv
List of Figures .....	iv
<b>1 Introduction .....</b>	<b>1</b>
1.1 Background .....	1
1.2 Overview of key amendments to the project .....	1
1.3 Project changes .....	2
1.4 Options considered.....	6
1.5 Planning and assessment process.....	6
1.6 Consultation.....	7
1.7 Purpose of this document .....	7
<b>2 Key environmental issues .....</b>	<b>8</b>
2.1 Overview.....	8
2.2 Traffic and transport.....	8
2.3 Air quality and human health.....	8
2.4 Noise and vibration .....	9
2.5 Property and land use.....	9
2.6 Urban design and visual amenity .....	12
2.7 Soil and water quality.....	12
2.8 Flooding and drainage .....	12
2.9 Groundwater .....	12
2.10 Resource management and waste minimisation .....	13
2.11 Social and economic.....	13
2.12 Non-Aboriginal heritage .....	14
<b>3 Other environmental issues .....</b>	<b>17</b>
3.1 Overview.....	17
3.2 Biodiversity .....	17
3.3 Greenhouse gas .....	17
3.4 Aboriginal heritage.....	17
3.5 Climate change risk and adaptation .....	18
3.6 Hazards and risk.....	18
3.7 Cumulative impacts .....	18
3.8 Sustainability .....	21
<b>4 Conclusion .....</b>	<b>22</b>
<b>5 References.....</b>	<b>24</b>

List of Tables

Table 1 AHIMS sites located within 500 metres of the Iron Cove Link..... 18

List of Figures

Figure 1 Regional context of WestConnex and the Iron Cove Link..... 3

Figure 2 Local context of the project and the Iron Cove Link..... 4

Figure 3 Land use zoning around the Iron Cove Link ..... 10

Figure 4 Heritage listed items in the vicinity of Iron Cove Link..... 15

Figure 5 Additional AHIMS sites in proximity to the Iron Cove Link ..... 19

Appendices

Appendix A List of Threatened Flora and Fauna Species

# 1 Introduction

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## 1.1 Background

Roads and Maritime Services (Roads and Maritime) propose to construct and operate the M4-M5 Link (the project) which would comprise a new, tolled multi-lane road link connecting the M4 East at Haberfield with the New M5 at St Peters. The project would also include potential interchanges at Rozelle and Camperdown.

The project is a component of the WestConnex program of works. WestConnex is a 33 kilometre motorway linking Sydney's west and south-west with Sydney Airport and the Port Botany precinct. The WestConnex program of works is being delivered as a series of projects in accordance with the requirements of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and other relevant legislation. Figure 1 illustrates the regional context of WestConnex.

## 1.2 Overview of key amendments to the project

In January 2016, Roads and Maritime prepared a State significant infrastructure application report (SSIAR) for the project under section 115X of the EP&A Act. References to the SSIAR in this report therefore refer to the January 2016 report. The SSIAR describes the project, considers the potential environmental issues for the project and identifies the key environmental issues. The purpose of the SSIAR was to assist the formulation of the Secretary's environmental assessment requirements (SEARs) by the NSW Department of Planning and Environment (DP&E) under section 115Y of the EP&A Act, which would inform the preparation of an environmental impact statement (EIS) for the project. On 3 March 2016, SEARs for the project were issued by DP&E.

Since preparation of the SSIAR in January 2016, preliminary design development and traffic modelling has informed further refinement of the design in the form of a tunnel connection from the southern abutment of the Iron Cove Bridge to the proposed Rozelle interchange (the 'Iron Cove Link'). The Iron Cove Link was not considered (or assessed) in the SSIAR. Therefore, an Addendum SSIAR (this report) has been prepared for submission to DP&E to provide a preliminary environmental assessment of the potential impacts of Iron Cove Link, which may subsequently inform additional SEARs (where required).

Roads and Maritime is now proposing to undertake site management works at part of the former Rozelle Rail Yards (the site, identified in the SSIAR as the location of the proposed Rozelle interchange at Rozelle) in the near future. The site management works would include:

- Site establishment including fencing, installing temporary site offices, erosion, sediment and drainage controls
- Investigative works to identify the location and nature of underground utilities and services across the site
- Removal of waste, stockpiles of materials and associated vegetation to reduce the existing environmental and safety hazards of the site
- Removal of existing above ground rail infrastructure (where permissible to do so), buildings and redundant services (where intercepted when removing infrastructure (e.g. gantries) and ballast) to a depth of 500 millimetres below ground level
- Site stabilisation comprising reshaping of the ground surface as a result of the site management works and implementation of stormwater controls.

These works are necessary to manage the existing environmental and safety hazards on the site, and to facilitate beneficial reuse of the site for future infrastructure purposes. These works will be assessed by Roads and Maritime.

The site management works do not include the remediation of subsurface material (other than associated with the site management works specified above), the removal of underground infrastructure nor the construction of the Rozelle interchange and associated activities. These activities will remain part of the SSI application.

These site management works do not form part of the SSI application. They will be assessed separately in a Review of Environmental Factors (REF) under Part 5 of the EP&A Act and therefore this Addendum SSIAR also seeks to exclude these works from the SSI application.

## **1.3 Project changes**

### **1.3.1 Design description**

The Iron Cove Link would provide a tunnel connection (including entry and exit portals near Terry Street at Rozelle) from Victoria Road at the southern abutment of the Iron Cove Bridge to the proposed Rozelle interchange at the Rozelle Rail Yards. The southern side of the carriageway of Victoria Road between the southern abutment of Iron Cove Bridge and Springside Street at Rozelle would be widened to accommodate the portals as well as changes to through-traffic lanes. A ventilation facility for the Iron Cove Link may need to be accommodated in this location; however, the need for it is subject to further investigation.

The tunnel would be approximately one kilometre in length and two lanes wide in each direction. The tunnel would have a posted speed limit of 80 kilometres per hour.

Figure 2 presents the local context of the project and the Iron Cove Link.



Figure 1 Regional context of WestConnex and the Iron Cove Link



Figure 2 Local context of the project and the Iron Cove Link

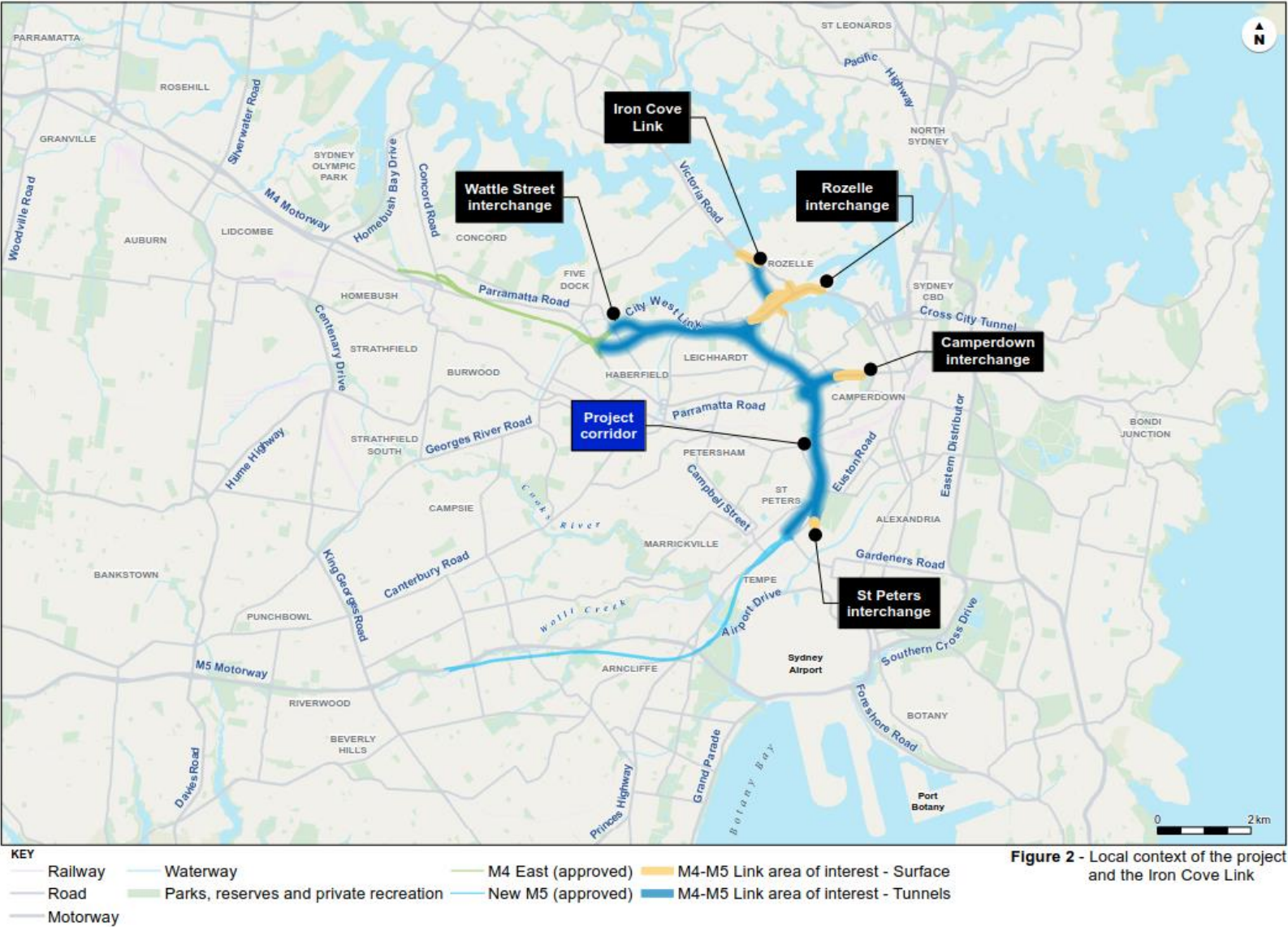


Figure 2 - Local context of the project and the Iron Cove Link

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### 1.3.2 Justification

Since the SSIAR was lodged, development of design options has been ongoing to address the complexity of the various tunnel and surface road connections and to address the sensitivity of the receiving urban environment. The Iron Cove Link is needed to improve the connectivity between the Rozelle interchange and Victoria Road.

The direct benefits of the Iron Cove Link include:

- Reduction in traffic along Victoria Road between Iron Cove Bridge and Anzac Bridge (preliminary traffic modelling anticipates a substantial reduction in traffic volumes) as well as the bypass of six sets of traffic lights
- Provision of a more seamless connection for traffic, including heavy vehicles, destined for Sydney Airport and Port Botany, via the proposed M4-M5 Link and the New M5
- Alternative access for traffic on Victoria Road from the north of Iron Cove Bridge to the Sydney Central Business District (CBD) and eastern CBD via the Rozelle interchange and Anzac Bridge
- Simplification of the connection between the Rozelle interchange and the Victoria Road/Anzac Bridge intersection
- Improved constructability and potential staging benefits within the Rozelle interchange.

The changes brought about by the operation of the Iron Cove Link would indirectly create a number of potential opportunities for the local surface road network, including:

- Public transport improvements along Victoria Road from the reduction in traffic volumes and improved capacity
- Improvement in amenity along Victoria Road from possible public domain and active transport improvements
- Provision of additional surface capacity at the Robert Street/ Victoria Road and City West Link/ Victoria Road intersections to improve access to The Bays Precinct
- Improvement to traffic (east-west) connectivity across Victoria Road and reintroduce turning movements onto Victoria Road.

The site management works would improve the management of existing environmental and safety hazards on the site and enable further investigations of the underground condition of the site to occur.

### 1.4 Options considered

The initial design of the Rozelle interchange involved a connection to Victoria Road via the City West Link and Robert Street intersections. However, preliminary traffic modelling showed significant constraints to this design option. The introduction of the Iron Cove Link would allow for simplification of the connectivity with these intersections as well as create additional capacity.

Other options investigated for the Iron Cove Link relate to the location of the portals on Victoria Road, including:

- Between Crystal Lane and Crystal Street, on the site of the current United Petroleum Service Station
- Along Victoria Road in the vicinity of Terry Street – the preferred option.

While the preferred option would involve the widening of the carriageway of Victoria Road between the southern abutment of Iron Cove Bridge and Springside Street at Rozelle, it is considered more favourable than the Crystal Lane option, which would be in potential conflict with the reserved CBD Metro corridor and require relocation of a local utilities substation, amongst other considerations.

### 1.5 Planning and assessment process

Roads and Maritime, as the proponent for the project, has formed the view that the project is likely to significantly affect the environment. On this basis, the project is State significant infrastructure under section 115U (2) of the EP&A Act by reason of the operation of clause 14 and clause 1(1) of Schedule 3 of the *State*



*Environmental Planning Policy (State and Regional Development) 2011*. Accordingly, the project is subject to Part 5.1 of the EP&A Act and requires the preparation of an EIS and the approval of the Minister for Planning.

The proposed site management works at the Rozelle Rail Yards will be further assessed in detail in a separate REF under Part 5 of the EP&A Act.

The requirements of the *Environmental Planning and Assessment Regulation 2000* (NSW) (EP&A Regulation), relevant to the project, are outlined in Appendix A of the SSIAR.

## 1.6 Consultation

As described in the SSIAR, consultation for the project is ongoing, with various methods established to engage with communities, government agencies and other stakeholders. The NSW Premier and the Minister for Roads publicly announced the inclusion of the Iron Cove Link to the project on 21 July 2016. Since then, residents and businesses that may be affected by property acquisition along Victoria Road (due to necessary road widening) have been notified. The August 2016 issue of the project community update newsletter has also been distributed to affected communities and interested stakeholders. A number of community meetings were undertaken throughout August to provide more information on the project, including the Iron Cove Link. These dates have been published in the community newsletter and on the project website.

## 1.7 Purpose of this document

The Iron Cove Link did not form part of the SSIAR submitted by Roads and Maritime to DP&E. This document has been prepared as an addendum to the SSIAR to:

- Capture the amendment to the study area as described in the SSIAR to include the Iron Cove Link
- Confirm that the proposed site management works at the Rozelle Rail Yards will be considered under a separate REF.

The proposed amendments could potentially result in an amendment to the SEARs.

## 2 Key environmental issues

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### 2.1 Overview

The SSIAR identified the following environmental aspects as key issues, being those that may have high or moderate impacts (actual or perceived) and that will require further detailed assessment and may require project specific impact mitigation measures:

- Traffic and transport
- Air quality and human health
- Noise and vibration
- Property and land use
- Urban design and visual amenity
- Soil and water quality
- Flooding and drainage
- Groundwater
- Resource management and waste minimisation.

The inclusion of the Iron Cove Link to the project is associated with a number of potential socio-economic and heritage impacts. These aspects of the project are therefore considered to be key issues and will be discussed as such in the EIS.

Where the Iron Cove Link has the potential for environmental impacts beyond those considered in the SSIAR, these have been assessed in the sections below.

### 2.2 Traffic and transport

Construction of the Iron Cove Link would provide a direct link from the Iron Cove Bridge to the proposed Rozelle interchange, thereby alleviating traffic on Victoria Road. A reduction in traffic volumes on Victoria Road creates opportunities for potential public transport improvements and improved capacity to access surrounding areas such as The Bays Precinct. Preliminary traffic modelling anticipates a substantial reduction in traffic volumes along Victoria Road with the Iron Cove Link in operation. However, increased traffic using the Iron Cove Link may result in an increased volume of traffic movements along the Iron Cove Bridge, which may result in congestion on either side of the bridge. The Iron Cove Link would also result in reduced local connectivity near the tunnel portals at Terry Street. The potential impacts of these changes to traffic conditions are subject to further investigations.

The SSIAR provided a preliminary assessment of the potential construction and operational impacts of the project on traffic and transport. Further assessment for traffic and transport outlined in the SSIAR would be undertaken during the preparation of the EIS and would include the Iron Cove Link.

As well as a traffic connection, the Iron Cove Bridge provides a purpose built pedestrian and cycle share path at the southern side of the bridge. This path also forms part of the Bay Run, a popular harbour side running track around the shores of Iron Cove Bay.

Construction and operational impacts of the project on cycling and pedestrian facilities will be assessed during the preparation of the EIS.

### 2.3 Air quality and human health

A ventilation facility may be required at the entry and exit portals at the southern abutment to the Iron Cove Bridge and potentially a further ventilation facility would be required at the proposed Rozelle interchange. The requirement for these facilities is being investigated as part of the project design.

The SSIAR considers the operational air quality and human health impacts of ventilation facilities proposed as part of the project. Those potential impacts described in the SSIAR are also relevant for the Iron Cove Link. The project SEARs require further assessment of these facilities during the preparation of the EIS. It is

proposed that the further assessment required by the SEARs would be extended to include the Iron Cove Link. The EIS will also consider the potential impact of the changes in traffic volumes as a result of the Iron Cove Link on local air quality and human health.

## 2.4 Noise and vibration

The SSIAR outlines the sensitive receivers that could potentially be impacted by noise and vibration generated from the construction and operation of the project. In addition to those outlined in the SSIAR, the following receivers are located within proximity to Iron Cove Link:

- The Jimmy Little Community Centre, Cecily Street, Lilyfield
- Agni Health Centre, Victoria Road, Rozelle
- Recreational users of the Bay Run, Rozelle
- Easton Park, Rozelle
- King George Park, Rozelle
- Bridgewater Park, Rozelle.

There are also a number of residential, commercial and industrial receivers near the Iron Cove Link; therefore, the list above is not exhaustive. Thorough identification of sensitive receivers within proximity to Iron Cove Link, and the potential impacts of the project on these receivers would be prepared as part of the EIS.

The SSIAR provides a preliminary assessment of the construction and operational impacts of noise and vibration generated from the project. Further assessment for noise and vibration impacts outlined in the SSIAR would be undertaken during preparation of the EIS and would include the Iron Cove Link. The assessment will consider the impacts of construction activities for tunnelling and surface works for the Iron Cove Link, with surface works at the portal locations at Easton Park and near Terry Street, Rozelle, associated with the more significant noise impacts.

## 2.5 Property and land use

The SSIAR outlined the impacts of both temporary and permanent property acquisition required for the project. Given the amendment to the study area, potential additional property acquisition (both temporary and permanent) will be required to accommodate the Iron Cove Link.

A number of properties will be acquired along the western side of Victoria Road between Byrne Street and Springside Street, due to the need to widen Victoria Road in this location.

Under the Leichhardt Local Environment Plan (LEP) 2013, the Iron Cove Link area of interest is zoned as general residential, public recreation, local centre and infrastructure (classified road). Generally this land comprises Easton Park, low density residential properties, businesses along Victoria Road, and the local commercial centre along Darling Street. Figure 3 illustrates the land use zoning around the Iron Cove Link.

The temporary use of Easton Park would be required to construct the dive and cut and cover tunnel portals to connect the surface roads at the Rozelle interchange to the Iron Cove Link tunnel. During construction, this recreational land use would not be available to the public. Following construction, the whole of Easton Park would be reinstated as a recreational area. A temporary construction compound would also be required in a small section of King George Park (near Byrne Street). This area would not be available for public use during construction but would be reinstated as a recreational area following construction completion.

Land adjacent to the Iron Cove Link may be affected by reduced amenity and perceived impact to property values. However, improvements in surface road traffic volumes on the bypassed section of Victoria Road may create opportunities for revitalisation of the public domain and urban facilities.

The SSIAR provides a preliminary assessment of the impacts of property acquisition and impacts to land use. A detailed assessment of the potential impacts of the project would be undertaken during preparation of the EIS and would include the land in the vicinity of the Iron Cove Link.

Figure 3 Land use zoning around the Iron Cove Link

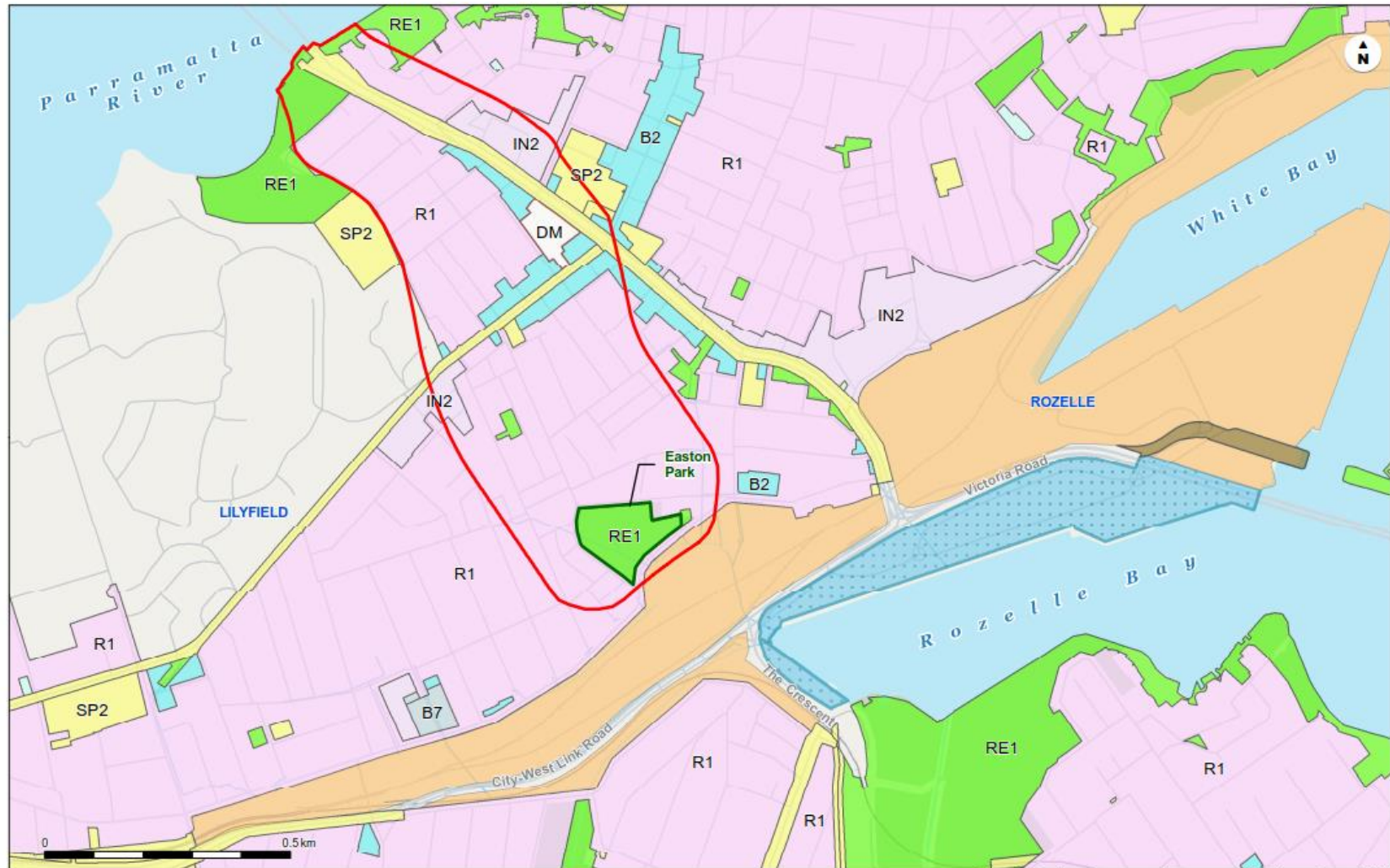


Figure 3 - Land use zoning around the Iron Cove Link





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## 2.6 Urban design and visual amenity

The SSIAR identifies several distinct landscape character zones and visual catchments. The visual catchments associated with Iron Cove Link include:

- Established residential housing in areas of Lilyfield and Rozelle
- Commercial development along the Victoria Road corridor
- Waterfront land adjacent to the southern side of Iron Cove Bridge, Rozelle – recreational areas providing views across Iron Cove and to the Iron Cove Bridge
- Easton Park, Rozelle – recreational area of open space providing views south to the proposed Rozelle interchange and toward Rozelle Bay.

The Iron Cove Link is associated with temporary visual impacts during construction at Easton Park, Iron Cove, and along Victoria Road.

The Iron Cove Link would provide an opportunity to improve amenity along Victoria Road from possible public domain and active transport improvements; and for potential land revitalisation and development of urban facilities along the Victoria Road corridor. These are not direct benefits associated with the project.

The SSIAR provides a preliminary assessment of the construction and operational impacts to urban design and visual amenity surrounding the project. Further assessment for urban design and visual amenity required for the project would be undertaken during preparation of the EIS and would include the Iron Cove Link.

## 2.7 Soil and water quality

The topography, soils (including acid sulfate soils) and geology for the Iron Cove Link are consistent with those outlined in the SSIAR. A review of the NSW Environment Protection Authority's Contaminated Land record did not identify any additional registered sites of contamination within 500 metres of the Iron Cove Link (beyond those identified in the SSIAR). Technical studies to inform the EIS will include an investigation into potential contamination associated with commercial properties along Victoria Road and historic land uses such as the filling of Easton Park.

The Iron Cove Link would potentially impact on two catchments as the area south of Darling Street drains south toward Rozelle Bay and the area north of Darling Street drains north toward Iron Cove.

With regard to water quality, Iron Cove and Rozelle Bay are similar to the other tributaries of Sydney Harbour that are polluted due to previous urbanisation and industrialisation.

The SSIAR provides a preliminary assessment of the construction and operational impacts of the project on soil and water quality. Further assessment for soils and water quality outlined in the SSIAR would be undertaken during the preparation of the EIS and would include the Iron Cove Link.

## 2.8 Flooding and drainage

The SSIAR outlines the key waterways located within and adjacent to the project corridor, including Iron Cove and Rozelle Bay. As described in section 2.7, the Iron Cove Link would drain into two catchments, north and south of Darling Street. The SSIAR provides a preliminary assessment of the potential construction and operational impacts of the project on flooding and drainage. Potential impacts of the Iron Cove Link relating to flooding and drainage would be consistent with those outlined in the SSIAR. Further assessment for flooding and drainage would be undertaken during the preparation of the EIS and would include the Iron Cove Link.

## 2.9 Groundwater

The SSIAR provides a preliminary assessment of the potential impacts associated with the project on groundwater. Potential impacts of the Iron Cove Link relating to groundwater would be consistent with those outlined in the SSIAR. Further assessment for potential impacts to groundwater would be undertaken during preparation of the EIS and would include the Iron Cove Link.

## 2.10 Resource management and waste minimisation

The SSIAR provides a preliminary assessment of the potential resource management and waste impacts associated with the construction and operation of the project. Potential impacts of the Iron Cove Link relating to resource management and waste minimisation would be consistent with those outlined in the SSIAR and mainly relate to spoil generation and management. Further assessment regarding resource management and waste minimisation would be undertaken during the preparation of the EIS and would include the Iron Cove Link.

## 2.11 Social and economic

The SSIAR outlines the key population statistics for the Local Government Areas (LGAs) and various land uses within the project corridor. It is noted that Leichhardt Municipal Council has since amalgamated to form part of the Inner West Council and LGA and that the Canada Bay Council, on the northern side of Iron Cove, would also be impacted by the Iron Cove Link.

In addition to the social and economic impacts of the project identified in the SSIAR, the Iron Cove Link is associated with a number of potential impacts and benefits on the social and economic status of Rozelle. The potential socio-economic impacts include:

- Property acquisition (including local businesses) along the western side of Victoria Road at the northern end of the Iron Cove Link
- Increased traffic on Victoria Road to the north of Iron Cove Bridge
- Reduced local road connectivity at the northern portals near Terry Street
- Temporary reduction in visual amenity and loss of public access to open spaces/recreational areas (such as Easton Park and a small section of King George Park) during construction.

The potential socio-economic benefits include:

- Seamless connection for traffic, including heavy vehicles, destined for Sydney Airport and Port Botany, via the proposed M4-M5 Link and the New M5
- Alternative access for traffic on Victoria Road from the north of Iron Cove Bridge to the Sydney CBD and eastern CBD via the Rozelle interchange and Anzac Bridge
- Provision of additional capacity at the Roberts Street/ Victoria Road and City West Link/ Victoria Road intersections to improve access to The Bays Precinct.

The following opportunities are associated with the changes in traffic volumes and road conditions in Rozelle:

- Reduction in traffic (including heavy vehicle movements) on Victoria Road between Iron Cove Bridge and Anzac Bridge
- Potential enhancement to amenity from public domain and active transport improvements along Victoria Road
- Potential increases to local road connectivity through improved east-west traffic movement and reintroduction of turning movements onto Victoria Road
- Potential for land revitalisation and development of urban facilities along the Victoria Road corridor.

The SSIAR provides a preliminary assessment of potential impacts on the social and economic environment surrounding the project. Generally, potential impacts of the Iron Cove Link relating to the socio-economic environment would be consistent with those outlined in the SSIAR. Further assessment of the potential socio-economic impacts associated with the project would be undertaken during the preparation of the EIS and would include the Iron Cove Link.

## 2.12 Non-Aboriginal heritage

A non-Aboriginal heritage desktop assessment was performed to inform the SSIAR in December 2015 which included a search of relevant statutory and non-statutory heritage databases and a review of the heritage listings within relevant LEPs. Given the amendment to the study area for the inclusion of Iron Cove Link, a further review was undertaken in June 2016 to inform this Addendum SSIAR.

One additional item listed on the State Heritage Register was identified about 200 metres west of the Iron Cove Link. This item is the Callan Park Conservation Area & Buildings, Lilyfield (ID 00818). Given the distance of this item from the Iron Cove Link, and the intervening residential development and open spaces, the item is not likely to be impacted.

An additional eighteen items of local heritage significance were also identified listed under the Leichhardt LEP 2013 and *State Regional Environmental Plan No. 26 – City West*. This includes Easton Park, which is listed as a landscape item. Easton Park will be used as a construction compound and to construct the dive and cut and cover tunnel portals to connect the surface roads at the Rozelle interchange to the Iron Cove Link tunnel. Easton Park will be returned to open space following construction completion. During construction no part of the park will be accessible to the public. It is intended that where possible, the trees bordering the northern end of the park will not be removed.

The Iron Cove Bridge is also listed on the Roads and Maritime s.170 heritage and conservation register and the *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*. While there would be no direct impacts to the bridge, its visual setting may change.

Three additional heritage conservation areas were also identified within or adjacent to the amended study area including:

- Iron Cove Heritage Conservation Area (C6)
- Easton Park Heritage Conservation Area (C7)
- The Valley Heritage Conservation Area (C18).

There are no World Heritage, National Heritage or Commonwealth Heritage Places recorded within the area of interest for the project.

Additional heritage items within proximity to the Iron Cove Link are shown in Figure 4.

The SSIAR provides a preliminary assessment of the potential impacts of the project on non-Aboriginal heritage items during construction and operation. Further assessment for items of non-Aboriginal heritage significance will be undertaken during preparation of the EIS and will include the Iron Cove Link.

The project would be undertaken with consideration given to the integration of urban design principles and heritage outcomes.



Figure 4 Heritage listed items in the vicinity of Iron Cove Link

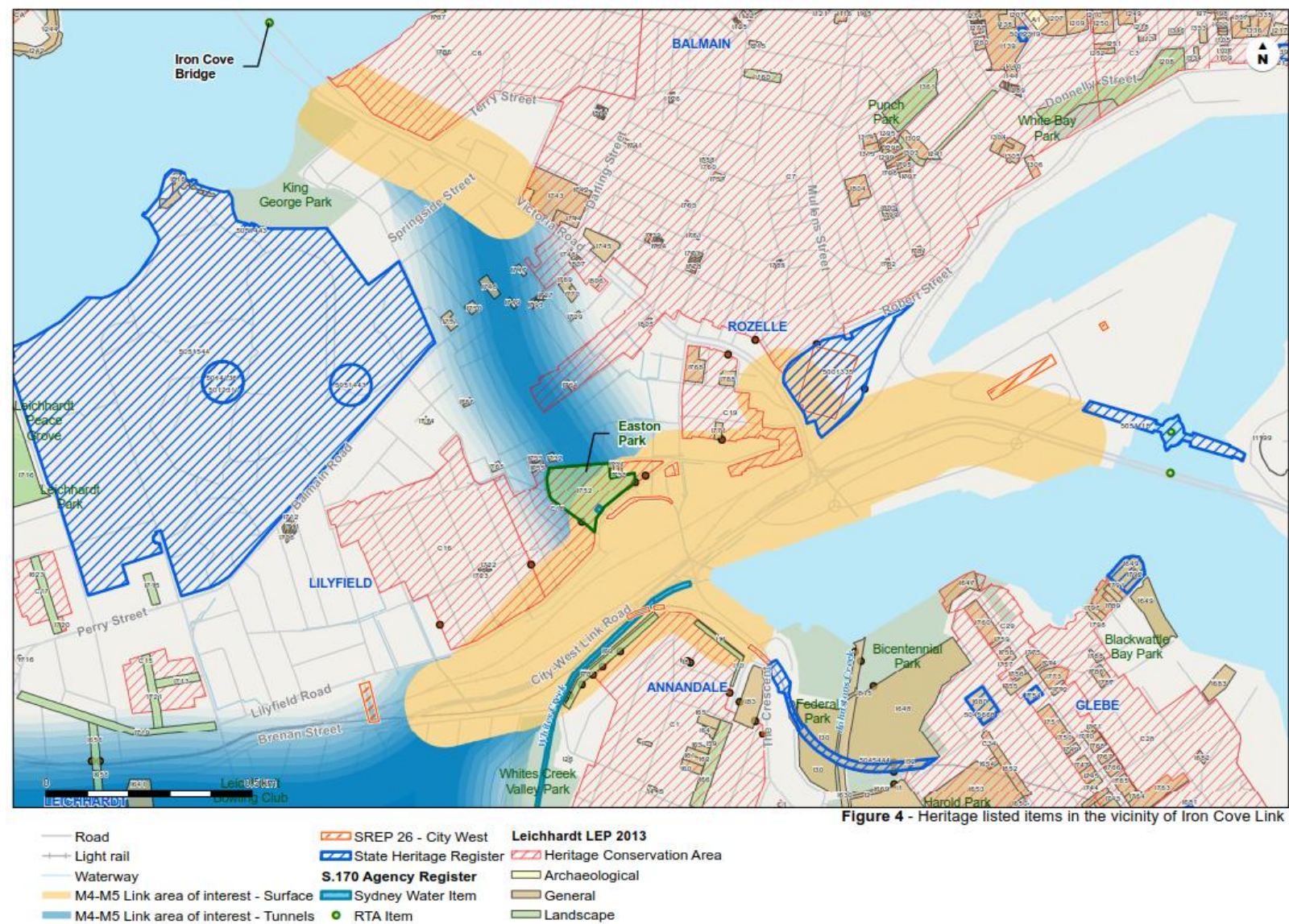


Figure 4 - Heritage listed items in the vicinity of Iron Cove Link

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## 3 Other environmental issues

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### 3.1 Overview

Other environmental issues listed below are being taken into account in the scope of the project, the existing environment and the implementation of standard and best practice management and mitigation measures.

### 3.2 Biodiversity

A biodiversity desktop assessment was performed to inform the SSIAR in December 2015 which included a search of the NSW BioNet Atlas of Wildlife and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) Protected Matters Search Tool. Given the amendments to the study area for the Iron Cove Link, a further review was undertaken in June 2016 to inform this Addendum SSIAR. The following items were identified:

- Thirteen threatened flora species listed under the EPBC Act and / or the *Threatened Species Conservation Act 1995* (TSC Act) (or their habitat), occurring within 10 kilometres of the Iron Cove Link
- Fifteen threatened fauna species listed under the EPBC Act and / or the TSC Act (or their potential habitat), occurring within 10 kilometres of the Iron Cove Link (including eight bird species, five mammal species and one frog species)
- One threatened fauna population.

These threatened species are outlined in Appendix A to this Addendum. It should be noted that there are no additional threatened species or populations to that identified in the SSIAR. Based on a review of available data and having regard to the proposed location of the Iron Cove Link, it is considered unlikely that these species or populations occur within the area.

However, the information provided through the Protected Matters Search Tool is indicative only and further assessment during preparation of the EIS is required to verify the information.

The majority of the vegetation within the Iron Cove Link area of interest has been mapped as urban native and exotic cover, as part of the Native Vegetation of the Sydney Metropolitan Area dataset (NSW Office of Environment and Heritage, 2014).

The SSIAR provides a preliminary assessment of potential impacts on biodiversity within the project corridor. Further assessment of potential biodiversity impacts associated with the project would be undertaken during preparation of the EIS and would include the Iron Cove Link.

### 3.3 Greenhouse gas

The SSIAR identifies the combustion of fuel for road transport as a key contributor to greenhouse gas emissions in Australia.

The SSIAR provides a preliminary assessment of potential impacts of the project associated with greenhouse gas emissions. Potential impacts of the Iron Cove Link relating to greenhouse gases would be consistent with those outlined in the SSIAR. Further assessment of greenhouse gas impacts associated with the project would be undertaken during preparation of the EIS and would include the Iron Cove Link.

### 3.4 Aboriginal heritage

The SSIAR describes the historical Aboriginal heritage landscape context of the project.

A review of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken in December 2015 to identify previously recorded sites within and surrounding the project corridor. Eight sites were identified within 500 metres of the project corridor comprising three open artefact sites (isolated artefacts and artefact scatters), two areas of Potential Archaeological Deposit (PAD), one midden, one art site and one resource and gathering site.

Given the amendments to the study area for the Iron Cove Link, a further review was undertaken in June 2016 to inform this Addendum SSIAR. Five additional sites were identified within 500 metres of the Iron

Cove Link, comprising one midden, three rock shelters with middens and one rock engraving with midden. Of these, the closest site is a rock shelter and midden (#45-6-0283), located 360 metres away. The sites are identified in Table 1. Given the distance to the Iron Cove Link, no direct impact on these sites is anticipated.

**Table 1 AHIMS sites located within 500 metres of the Iron Cove Link**

AHIMS ID	Description	Approximate distance from the Iron Cove Link
45-6-0283	Rock shelter and midden	360 metres
45-6-1971	Rock shelter and midden	380 metres
45-6-1972	Rock shelter and midden	420 metres
45-6-1481	Midden	460 metres
45-6-0618	Rock engraving and midden	470 metres

Data provided by the NSW Office of Environment and Heritage (OEH) consists of a centroid coordinate for each registered site. The coordinate data held in the AHIMS register is known to contain coordinate errors, meaning that this data should be considered as a guide only until confirmed by field inspection.

Additional Aboriginal heritage items within proximity to the Iron Cove Link are shown in Figure 5.

The SSIAR provides a preliminary assessment of the potential impacts of the project on Aboriginal heritage items during construction and operation. Further assessment of items of Aboriginal heritage significance would be undertaken during preparation of the EIS. The AHIMS data will be confirmed at this time by field inspection.

### 3.5 Climate change risk and adaptation

The SSIAR identifies potential risks to the project (and road infrastructure in general) as a result of climate change.

The SSIAR provides a preliminary assessment of the potential impacts of climate change to the project. Potential impacts of the Iron Cove Link relating to climate change risk and adaptation would be consistent with those outlined in the SSIAR. Further assessment of climate change risk and adaptation for the project would be undertaken during preparation of the EIS and would include the Iron Cove Link.

### 3.6 Hazards and risk

As outlined in the SSIAR, hazard and risk impacts associated with the project have the potential to affect the surrounding environment and human health.

The SSIAR provides a preliminary assessment of the hazards and risks associated with the project. Potential impacts of the Iron Cove Link relating to hazards and risk would be consistent with those outlined in the SSIAR. Further assessment of hazards and risks would be undertaken during preparation of the EIS and would include the Iron Cove Link.

### 3.7 Cumulative impacts

The SSIAR outlined the key developments that are expected to interact with the project. Other components of the WestConnex program and key projects that are expected to interact with the Iron Cove Link include:

- WestConnex New M5
- The proposed future Western Harbour Tunnel
- The Bays Precinct Transformation
- CBD and South East Light Rail.

Further assessment of potential cumulative impacts would be undertaken during preparation of the EIS.



Figure 5 Additional AHIMS sites in proximity to the Iron Cove Link

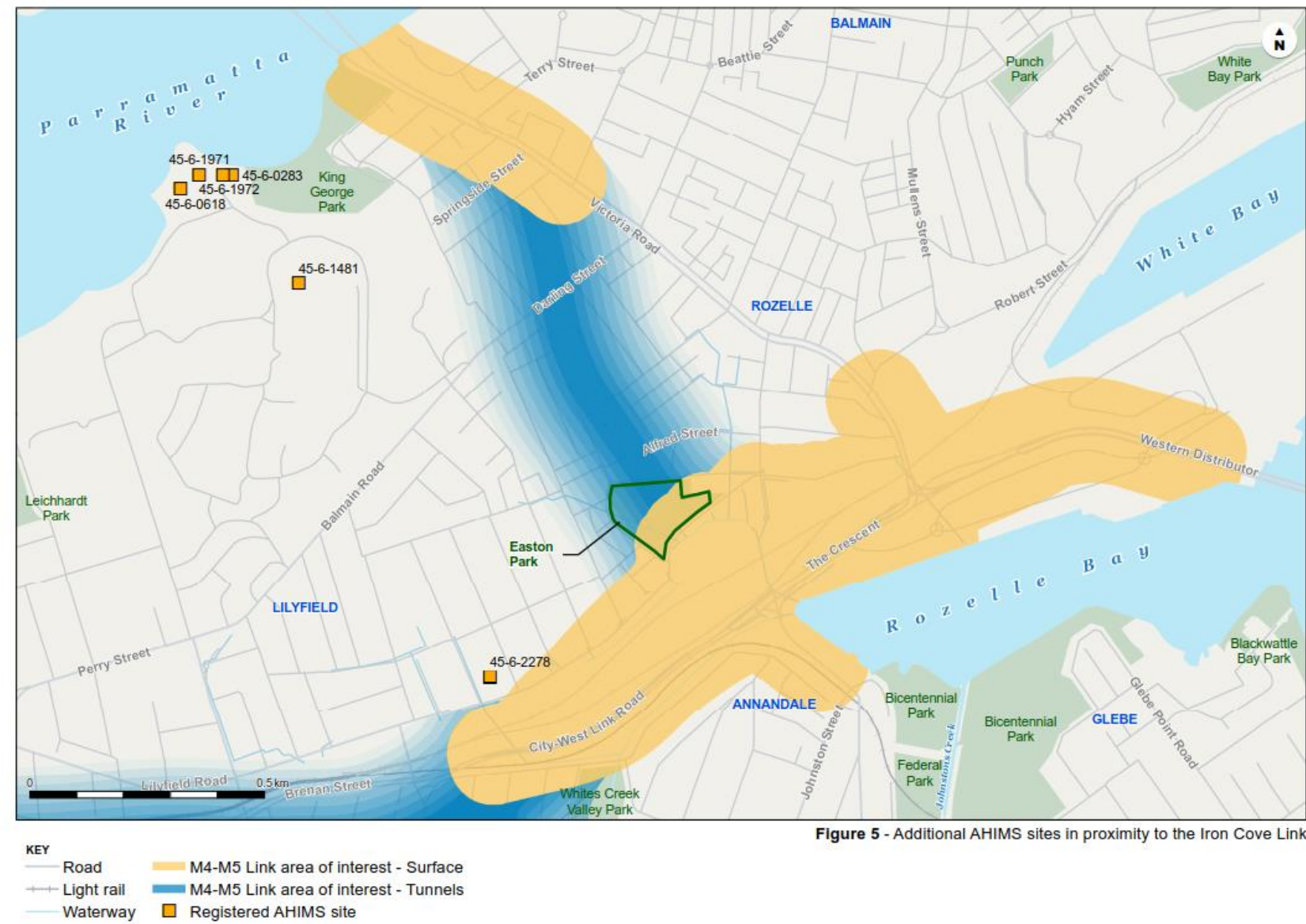


Figure 5 - Additional AHIMS sites in proximity to the Iron Cove Link

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### 3.8 Sustainability

As outlined in the SSIAR, the project will be designed to achieve an Infrastructure Sustainability rating of 'Excellent' for the design and construction and will be undertaken in accordance with the WestConnex Sustainability Strategy (the Sustainability Strategy) (WestConnex Delivery Authority, 2015).

The SSIAR provides a preliminary assessment of the impacts of the project on sustainability. Potential impacts of the Iron Cove Link relating to sustainability would be consistent with those outlined in the SSIAR. Proposed further assessment of sustainability would be undertaken during preparation of the EIS.

## 4 Conclusion

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In January 2016, Roads and Maritime prepared a SSIAR for the project under section 115X of the EP&A Act. The SSIAR describes the project, considers the potential environmental issues for the project and identifies key environmental issues for the project. The purpose of the SSIAR was to assist the formulation of SEARs under section 115Y of the EP&A Act, which would inform the preparation of an EIS for the project.

On 3 March 2016, SEARs for the project were issued by DP&E.

Since preparation of the SSIAR in January 2016, preliminary design development and traffic modelling has informed further refinement of the design in the form of a tunnel connection from the southern abutment of the Iron Cove Bridge to the proposed Rozelle interchange (the 'Iron Cove Link').

The Iron Cove Link was not considered (or assessed) in the SSIAR, and therefore this Addendum SSIAR is required to inform additional SEARs (where required) and to undertake a preliminary assessment of the potential environmental impacts.

Roads and Maritime is the proponent and has formed the opinion that the project is likely to significantly affect the environment. Accordingly, the project is State significant infrastructure under Part 5.1 of the EP&A Act. Approval from the Minister for Planning is required for the project.

This Addendum SSIAR provides a preliminary assessment of the potential environmental impacts associated with the Iron Cove Link. During preparation of the EIS, these and other potential impacts will be further investigated. The EIS will consider any additional SEARs provided by the Secretary of DP&E.

Roads and Maritime is now proposing to undertake site management works at part of the former Rozelle Rail Yards. These site management works, which primarily include waste and vegetation removal, identification of site utilities, demolition and removal of infrastructure, and installation of fencing and drainage controls, are not part of the SSI application. They will be assessed separately in a REF under Part 5 of the EP&A Act.

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## 5 References

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## APPENDIX A

### Listed Threatened Flora and Fauna Species

**Table A1 Listed threatened flora and fauna species and populations with the potential to occur within 10 kilometres of the Iron Cove Link**

Scientific name	Common name	Commonwealth listing (EPBC Act)		NSW listing (TSC Act)		Mapped within 10 km of the Iron Cove Link
		Yes/No	Status	Yes/No	Status	
Flora						
<i>Acacia gordonii</i>	-	Yes	Endangered	Yes	Endangered	✖
<i>Genoplesium baueri</i>	Bauer's Midge Orchid	Yes	Endangered	Yes	Endangered	✖
<i>Hypsela sessiliflora</i>	-	Yes	Extinct	Yes	Endangered	✖
<i>Persoonia hirsuta</i>	Hairy Geebung	Yes	Endangered	Yes	Endangered	✖
<i>Prostanthera marifolia</i>	Seaforth Mintbush	Yes	Critically Endangered	Yes	Endangered	✖
<i>Wilsonia backhousei</i>	Narrow-leafed Wilsonia	No	-	Yes	Vulnerable	✖
<i>Tetradlea glandulosa</i>	-	No	-	Yes	Vulnerable	✖
<i>Tetradlea juncea</i>	Black-eyed Susan	Yes	Vulnerable	Yes	Vulnerable	✖
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	-	No	-	Yes	Vulnerable	✖
<i>Dillwynia tenuifolia</i>		No	-	Yes	Vulnerable	✖
<i>Eucalyptus pulverulenta</i>	Silver-leafed Gum	Yes	Vulnerable	Yes	Vulnerable	✖
<i>Leptospermum deanei</i>	-	Yes	Vulnerable	Yes	Vulnerable	✖
<i>Callistemon linearifolius</i>	Netted Bottle Brush	No	-	Yes	Vulnerable	✖
Fauna						
Birds						
<i>Ixobrychus flavicollis</i>	Black Bittern	No	-	Yes	Vulnerable	✖
<i>Glossopsitta pusilla</i>	Little Lorikeet	No	-	Yes	Vulnerable	✖
<i>Daphoenositta chrysoptera</i>	Varied Sittella	No	-	Yes	Vulnerable	✖
<i>Petroica boodang</i>	Scarlet Robin	No	-	Yes	Vulnerable	✖
<i>Calyptorhynchus lathamii</i>	Glossy Black-Cockatoo	No	-	Yes	Vulnerable	✖
<i>Pandion cristatus</i>	Eastern Osprey	No	-	Yes	Vulnerable	✖
<i>Ninox connivens</i>	Barking Owl	No	-	Yes	Vulnerable	✖
<i>Tyto tenebricosa</i>	Sooty Owl	No	-	Yes	Vulnerable	✖
Amphibia (Frogs)						
<i>Pseudophryne australis</i>	Red-crowned Toadlet	No	-	Yes	Vulnerable	✖
Mammals						
<i>Dasyurus viverrinus</i>	Eastern Quoll	Yes	Critically	Yes	Endangered	✖

Scientific name	Common name	Commonwealth listing (EPBC Act)		NSW listing (TSC Act)		Mapped within 10 km of the Iron Cove Link
		Yes/No	Status	Yes/No	Status	
			Endangered			
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	Yes	Endangered	Yes	Vulnerable	✖
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	No	-	Yes	Vulnerable	✖
<i>Miniopterus australis</i>	Little Bentwing-bat	No	-	Yes	Vulnerable	✖
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	No	-	Yes	Vulnerable	✖
<b>Fauna (populations)</b>						
<i>Perameles nasuta</i>	Long-nosed Bandicoot population in inner western Sydney	No	-	Yes	Endangered	✖



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