

Western Parkland City Authority

Objective ID: A8715129

Bradfield City Centre Stage 2A Enabling Works

Review of Environmental Factors

17 May 2024

wpc.a.sydne.y

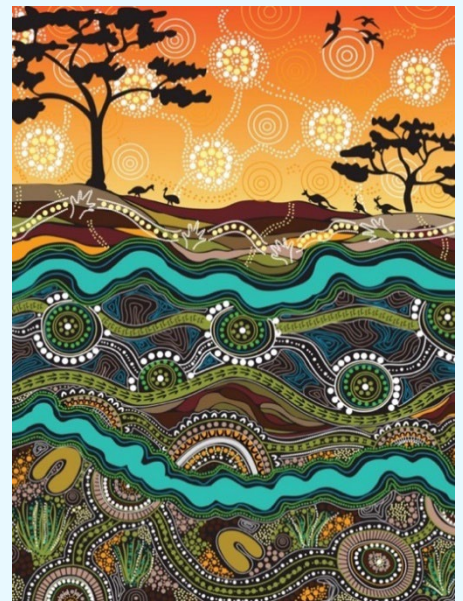
Acknowledgement of Country

Aboriginal people have had a continuous connection with the Country encompassed by the Western Parkland City (the Parkland City) from time immemorial. They have cared for Country and lived in deep alignment with this important landscape, sharing and practicing culture while using it as a space for movement and trade.

We acknowledge that four groups have primary custodial care obligations for the area: Dharug/Darug, Dharawal/Tharawal, Gundungurra/Gundungara and Darkinjung. We also Acknowledge others who have passed through this Country for trade and care purposes: Coastal Sydney people, Wiradjuri and Yuin.

Western Sydney is home to the highest number of Aboriginal people in any region in Australia. Diverse, strong and connected Aboriginal communities have established their families in this area over generations, even if their connection to Country exists elsewhere. This offers an important opportunity for the future of the Parkland City.

Ensuring that Aboriginal communities, their culture and obligations for Country are considered and promoted will be vital for the future of the Parkland City. A unique opportunity exists to establish a platform for two-way knowledge sharing, to elevate Country and to learn from cultural practices that will create a truly unique and vibrant place for all.



Garungarung Murri Murri Nuru (Beautiful Grass Country)
Artwork created by Dalmarri artists Jason Douglas and Trevor Eastwood for the Western Parkland City Authority.

Contents

About Western Parkland City Authority	4
Bradfield City Centre.....	4
Executive Summary	5
Foreword and Certification	10
Foreword	10
Certification	10
Glossary.....	11
1. Introduction.....	13
1.1 Overview.....	13
1.2 Project Background.....	13
1.3 Activity Description Under the T&I SEPP.....	16
1.4 Project Information.....	16
2. Need and Options Considered	18
2.1 Strategic need for the proposal.....	18
2.2 Alternatives and options considered	18
3. Site and Surrounding Context	20
3.1 Site Location and Description	20
3.2 Existing Site Characteristics.....	23
4. Proposed Activity.....	29
4.1 Overview.....	29
4.2 Detailed Description of Proposed Works.....	31
4.3 Road Design	31
4.4 Earthworks.....	35
4.5 Stormwater Management	37
4.6 Utilities.....	39
4.7 Streetscape Landscaping	40
4.8 Construction Activities.....	42
4.9 Works Not Part of this REF	42

5.	Statutory and Planning Framework	44
5.1	Commonwealth legislation	44
5.2	State Legislation.....	46
5.3	State Environmental Planning Policies.....	53
5.4	Strategic Planning Policies.....	68
5.5	Other Statutory Planning Considerations	70
6.	Assessment of Environmental Factors.....	76
7.	Stakeholder and Community Consultation	82
8.	Assessment of Environmental Impacts.....	88
8.1	Biodiversity	88
8.2	Construction Traffic Management.....	88
8.3	Construction Noise and Vibration.....	89
8.4	Soil and Water Quality	90
8.5	Sediment and Erosion Control	90
8.6	Bushfire	90
8.7	Air Quality.....	91
8.8	Traffic – Operational.....	92
8.9	Groundwater.....	92
8.10	Geotechnical.....	93
8.11	Salinity	93
8.12	Landscaping.....	94
8.13	Aboriginal Cultural Heritage.....	94
8.14	Non-Aboriginal Heritage.....	95
8.15	Contamination.....	95
8.16	Visual Amenity	95
8.17	Socio-Economic Considerations.....	96
8.18	Cumulative Impacts.....	96
9.	Requirements and Mitigation Measures	97
9.1	Plans and Documents.....	97
9.2	Activity Certification	101
9.3	Mitigation Measures.....	102
10	Conclusion.....	119

Background

About Western Parkland City Authority

The Western Parkland City Authority (**WPCA**) is building a stronger future for Western Sydney by delivering Bradfield City Centre and attracting investment to the region.

The Authority works with all levels of government, industry, and the community to realise the once-in-a-generation opportunities the new 24/7 Western Sydney International (Nancy-Bird Walton) Airport and the surrounding Western Sydney Aerotropolis present.

Securing the future of the region is a critical priority for all levels of Government, supported by the \$20 billion trilateral government Western Sydney City Deal and landmark infrastructure.

The Authority is leading the development of one of the country's most ambitious and exciting projects – Bradfield City Centre, located in the heart of the Aerotropolis.

The focus is on investment attraction and driving economic opportunities for the benefit of the Aerotropolis and the wider Western Parkland City. The Advanced Manufacturing Research Facility (**AMRF**) supports local manufacturers and new industries of the future.

Bradfield City Centre

Located at the heart of the Western Sydney Aerotropolis, Bradfield City Centre sits on the doorstep of the new Western Sydney International Airport.

Bradfield City Centre will become a vibrant, 24/7 global city, driving advancements in industry and acting as a central gathering place for arts, culture, and entertainment. It will unlock new economic opportunities, create 10,000 more homes, and support 20,000 new jobs for the people of Western Sydney.

Advanced manufacturing and other future looking industries based in Bradfield City Centre will act as a magnet for innovation across all Western Sydney. This will create good quality and better paid jobs closer to home. With more than half the world's population just a 14-hour flight away, Bradfield City Centre will also be a destination for tourism and entertainment.

At 114-hectares, Bradfield City Centre is one of the biggest urban development projects ever undertaken in Australia and is the first major city to be built in over 100 years.

Executive Summary

The Western Parkland City Authority (WPCA) (the **Proponent**) is proposing to undertake a series of enabling works (referred to as the Stage 2A Enabling Works) associated with the delivery of Bradfield City Centre.

Bradfield City Centre is located at 215 Badgerys Creek Road, Bradfield and is legally described as Lot 3101 in Deposited Plan (DP) 1282964. The site is comprised of a single 114.9-hectare parcel of land and is owned by the WPCA.

As shown in **Figure 1**, the Stage 2A Enabling Works covers a site area of approximately 38 hectares of land within the broader Bradfield City Centre site, and involves delivery of new master planned roads, streetscape works, civil works and public utilities to be delivered in a staged construction scheduled to be completed by 2026.

The Stage 2A Enabling Works are focused on delivering fully serviced development blocks super lots. This work includes bulk earthworks, civil road works, grading and levels for the site, public utilities, open space and street landscaping. Completion of these works will enable fully serviced super lots to be developed by WPCA or through private sector partners that will contribute to and support the early activation and place making for the Bradfield City Centre.

The proposed activity is prescribed under Chapter 2 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP)*, which permits development for the purposes of new roads and other essential infrastructure to be carried out by or on behalf of a public authority without development consent.

Specifically, the range of activities proposed as part of the Stage 2A Enabling Works is captured under the following provisions of the T&I SEPP:

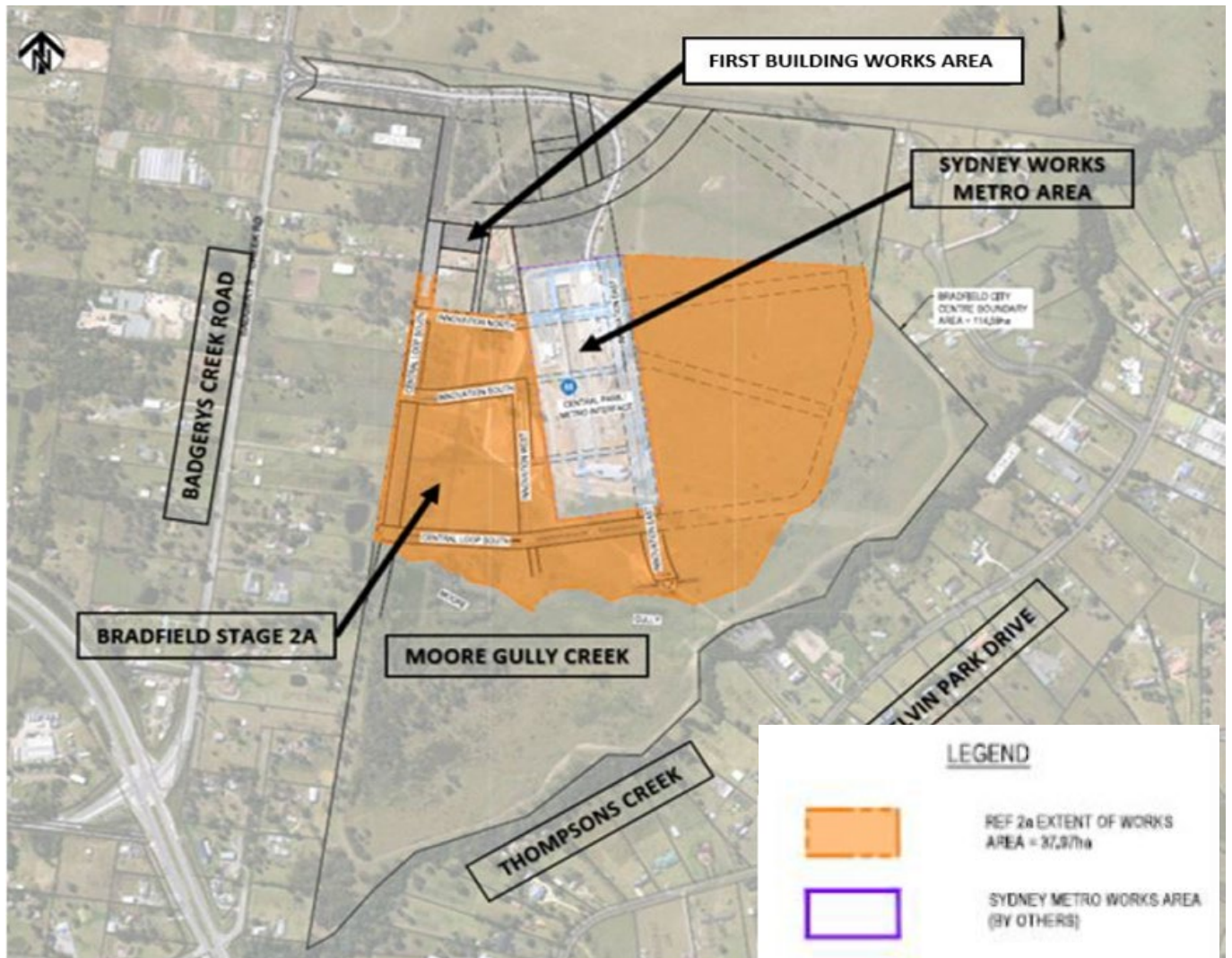
- Section 2.109 of Division 17 – Roads and Traffic permits development on any land for the purpose of a ‘road or road infrastructure facilities’ to be carried out by or on behalf of a public authority without consent. This section also enables the provision of services utilities within the road corridor, permits earthworks in connection with the delivery of new roads, and the creation of new lots because of the new roads. Street landscaping elements can also be delivered in accordance with this section.
- Section 2.137 of Division 20 – Stormwater Management Systems permits development for the purpose of ‘stormwater management systems’ to be carried out by or on behalf of a public authority without consent on any land.
- Section 2.159 of Division 24 – Water Supply Systems permits development for the purpose of ‘water supply systems’ to be carried out by or on behalf of a public authority without consent on any land. This includes water reticulation systems.
- Section 2.44 of Division 5 - Electricity Transmission or Distribution Networks permits development for the purpose of an electricity transmission or distribution network. This includes above or below ground electricity transmission or distribution lines.
- Section 2.141 of Division 21 - Telecommunications and other communication facilities permits development for the purposes of telecommunications facilities to be carried out by or on behalf of a public authority without consent on any land. This includes fibre access nodes.

For the purposes of these works, WPCA is the Proponent and the determining authority under Part 5 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. While the proposed activity does not require development consent, a public authority (being WPCA in the case of this matter) is required to assess the likely impacts of the proposal in accordance with the provisions of Part 5 of the EP&A Act.

In doing so, it satisfies Section 5.5(1) of the EP&A Act which requires the Proponent to examine and fully consider, all matters affecting, or likely to affect, the environment by reason of the activity.

Based on the consideration of the environmental impacts of the project and the information presented in this Review of Environmental Factors (REF), by adopting the mitigation measures identified in this assessment, it is unlikely that the proposed activity would significantly affect the environment and an Environmental Impact Statement (EIS) is not required.

Figure 1 Stage 2A Site Area



Source: SMEC

Description of Proposed Activity

The Stage 2A Enabling Works are required to facilitate future development of the site in accordance with the Technical Assurance Panel (TAP) endorsed draft Bradfield City Centre (BCC) Master Plan, and consists of the following:

- Construction of new roads and associated infrastructure.
- Site clearing (including the removal of vegetation) and associated earthworks.
- Provision of service authority utilities within the road corridors.
- Street landscaping.
- Drainage and stormwater infrastructure (including temporary stormwater basins).
- Stockpiling of excess soil
- Construction of temporary haul roads during construction.

The proposed activity will be undertaken generally in accordance with the requirements of the Western Sydney Aerotropolis Precinct Plan (the **Precinct Plan**) and Western Sydney Aerotropolis Development Control Plan (**WSA DCP**) and is entirely consistent with the TAP endorsed draft BCC Master Plan.

Civil Engineering Drawings and Landscape Drawings are provided at **Appendix A** and **Appendix E** respectively.

Environmental Impacts and Mitigation Measures

The proposed activity is not affected by any significant environmental constraints. The Stage 2A site is not identified as flood affected land and does not contain any items of non-aboriginal heritage. A total of seven (7) AHIMS sites are located within the boundary of Stage 2A site, and as such, where impacts to any of the identified Aboriginal sites cannot be avoided, an approved Aboriginal Heritage Impact Permit (**AHIP**) will be required to authorise harm. On 28 March 2024, the NSW DCCEEW issued an approved AHIP in respect to the 7 sites.

The site is comprised of gently undulating landscape that has been semi-cleared of native vegetation. Several ecological communities are present on-site including wetlands, Cumberland Plains Woodland, regenerative shrub land, alluvial woodland and endangered species. Whilst the proposed activity will require the removal of some vegetation including trees, the site is biodiversity certified under Part 9 of the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) and therefore no referral for impacts to matters of national environmental significance (**NES**) is required.

Further, under Part 5 of the EP&A Act, a determining authority is not required to further consider the effect on biodiversity of an activity to the extent that it is carried out on biodiversity certified land. As such no further assessment of impacts to *Biodiversity Conservation Act 2016* (**BC Act**) listed threatened species and communities is required, and a Species Impact Statement (**SIS**) or Biodiversity Development Assessment Report (**BDAR**) is not required.

The proposed activity is not anticipated to negatively impact on the visual amenity of the area as the site is located near the live construction site for the Sydney Metro Western Sydney Airport line and adjoining rural residential properties identified for future development. The finished work will improve the visual amenity of the area as it includes extensive planting of trees and other landscaping. The Stage 2A site is not located near any buildings or highways where any screening of the works would be required. In addition, the proposed activity is restricted to site establishment works and will not involve the construction of any new buildings which may result in built form impacts, such as overshadowing, to adjoining development.

Construction traffic, noise and vibration, air quality, soil and water quality and waste management impacts will be appropriately managed, and any impacts will be mitigated in accordance with the Construction Environmental Management Plan (**CEMP**) provided at **Appendix I** of this REF. The proposed activity will be carried out in accordance with the CEMP to ensure the safety of construction works, and to minimise any ongoing disruptions to adjoining development.

The proposed activity can therefore proceed, subject to the implementation of the specified Mitigation Measures provided in this REF.

Stakeholder Consultation

The WPCA has liaised with Liverpool City Council (**LCC**), Transport for New South Wales (**TfNSW**) and Sydney Metro throughout the preparation of the draft BCC Master Plan and in preparing the design for the proposed roads and associated work. Consultation will continue through the delivery phase.

The proposed activity is prescribed under Chapter 2 of the T&I SEPP, which permits development for the purposes of new roads and other essential infrastructure to be carried out by or on behalf of a public authority without development consent.

As the proposed activity relates to development with impacts on council-related infrastructure or services, Section 2.10 of the T&I SEPP applies. Section 2.10 requires a notice of the intention to carry out the development to be issued to LCC where development is being carried out with impacts on Council related infrastructure or services. It also requires the Proponent to take into consideration any responses to this notice that are received within 21 days after the notice is given.

As the proposed activity also includes the installation of underground telecommunications network cables Section 2.141(7) requires formal notification for 21 days to LCC. Further, as the part of the broader site is identified as flood liable land, consultation is required with LCC and the State Emergency Services (**SES**) in accordance with Section 2.12 of the T&I SEPP.

Accordingly, LCC and the SES were notified by WPCA on 29 February 2024 via email of WPCA's intention to carry out the proposed activity.

In addition to LCC and SES, WPCA also notified the following agencies of their intention to carry out the proposed activity:

- TfNSW
- Sydney Metro
- Sydney Water
- NSW Department of Climate Change Energy, the Environment and Water (**DCCEEW**)

A response to all comments received from the various stakeholders is provided in the Response to Submissions Report provided at **Appendix Q** of this REF.

Foreword and Certification

Foreword

This REF has been prepared on behalf of the WPCA (the **Proponent**) by Urbis to examine and fully considers all matters affecting or likely to affect the environment by reason of the proposal to carry out a series of enabling works associated with the delivery of Bradfield City Centre. The purpose of this REF is to assess the potential environmental impacts of an activity prescribed by T&I SEPP as “development without consent” under Part 5, Division 5.1 of the EP&A Act, and detail mitigation and management measures to be implemented.

For the purposes of these works, WPCA is the Proponent and the determining authority under Part 5 of the EP&A Act. This REF has been prepared pursuant to the requirements of all relevant NSW and Commonwealth legislation including the guidelines issued pursuant to Section 170(1) of the *Environmental Planning and Assessment Regulation 2021 (EP&A Regulation)*, being the Guidelines for Division 5.1 assessments (DPHI June 2022) (**Division 5.1 Guidelines**).

After consideration of key environmental aspects and the specialist studies completed; as well as the information presented in this REF, it is concluded that by adopting the mitigation measures identified in this assessment it is unlikely that there would be any significant environmental impacts associated with the proposed activity.

Certification

This REF provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses, to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the proposal. The information contained in this REF is neither false nor misleading.

a) Name of the person(s) who prepared the REF:

I certify that I have reviewed and endorsed the contents of this REF document, and, to the best of my knowledge, it is in accordance with the EP&A Act in full, the EP&A Regulation in full and the Guidelines approved under Section 170 of the EP&A Regulation in full, and the information it contains is neither false nor misleading.

Name, Position and Qualifications of the person(s) who prepared the REF:	Christopher Croucamp, Senior Consultant, Bachelor of Liberal Studies (USYD), Master of Planning (UTS)
	Murray Donaldson, Director, Bachelor of Town Planning (Hons) (UNSW), Master of Environmental Management (Macquarie University)

Signature:




Date:

17.05.2024

Glossary

Abbreviated Term	Meaning
AHIMS	Aboriginal Heritage Information Management System
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
Biodiversity and Conservation SEPP	<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i>
CEMP	Construction Environmental Management Plan
EDC	Estimated Development Cost
DA	Development Application
DP	Deposited Plan
WSA DCP	Western Sydney Aerotropolis Development Control Plan 2022
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental planning instrument
FM Act	<i>Fisheries Management Act 1994</i>
LEP	Local environmental plan

LGA	Local Government Area
Planning Systems SEPP	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
REF	Review of Environmental Factors
Resilience and Hazard's SEPP	<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>
SEPP	State Environmental Planning Policy
SIS	Species impact statement
SSDA	State Significant Development Application
SSI	State Significant Infrastructure
T&I SEPP	<i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>
WPCA	Western Parkland City Authority
WPC SEPP	<i>State Environmental Planning Policy (Precincts – Western Parkland City) 2021</i>

1. Introduction

1.1 Overview

The Western Parkland City Authority (**WPCA**) (the **Proponent**) is proposing to undertake enabling works associated with the delivery of Bradfield City Centre.

Bradfield City Centre is located at 215 Badgerys Creek Road, Bradfield and is legally described as Lot 3101 in Deposited Plan (**DP**) 1282964. The site is comprised of a single 114.9-hectare parcel of land and is owned by the WPCA.

This REF relates to the Stage 2A Enabling Works which covers a site area of approximately 38 hectares of land within the broader Bradfield City Centre site, and involves delivery of new master planned roads, streetscape works, civil works and public utilities to be delivered in a staged construction scheduled to be completed by 2026.

An extract of the Stage 2A site plan is provided at **Figure 1** which shows the extent of the Stage 2A site area within the broader Bradfield City Centre site.

The Stage 2A Enabling Works are required to facilitate the development of the site in accordance with the TAP endorsed draft BCC Master Plan, and consists of the following:

- Construction of new roads and associated infrastructure.
- Site clearing (including removal of vegetation) and associated earthworks.
- Provision of service authority utilities within the road corridors.
- Street landscaping.
- Drainage and stormwater infrastructure (including temporary stormwater basins).
- Stockpiling of excess soil.
- Construction of temporary haul roads during construction.

This REF is accompanied by concept plans and a range of supporting technical studies which have been prepared to inform the proposed design. The proposed road alignments and civil infrastructure for Stage 2A are generally in accordance with the Precinct Plan and WSA DCP and is consistent with the TAP endorsed draft BCC Master Plan.

WPCA has confirmed the estimated development cost (**EDC**) of the proposed activity is \$29,000,000 (excluding GST).

1.2 Project Background

1.2.2 Western Parkland City

The NSW State Government's vision for the Western Parkland City is detailed in the Western City District Plan which was prepared by the Greater Sydney Commission in 2018.

The vision articulates that a city be established on the strength of the Western Sydney International (Nancy-Bird Walton) Airport and the Western Sydney Aerotropolis. A polycentric city capitalising on the established centres of Liverpool, Penrith and Campbelltown; new city shaping transport making the city the most connected in Australia. Advanced manufacturing and other future looking industries based in Bradfield City Centre will act as a magnet for innovation across all of Western Sydney. This will create good quality and better paid jobs closer to home for Western Sydney residents.

1.2.3 Western Parkland City Authority

The WPCA was established in late 2018 as one of the commitments in the Western Sydney City Deal, to become the master planner and developer for the Western Sydney Aerotropolis with an initial focus on 115 hectares of Commonwealth land, and to attract and facilitate development with a focus on delivering 200,000 jobs in the Western Parkland City. In addition, the WPCA performs a key role in the coordination of NSW government agencies to deliver outcomes in the Western Parkland City and Aerotropolis.

In December 2019 the WPCA released its strategy *Delivering the Western Parkland City*. Under this strategy, the WPCA is the delivery authority tasked to design and deliver the Bradfield City Centre, creating a dynamic new place for people to live, work and learn. The Stage 2A Enabling Works (which forms the basis of the subject REF) will provide the high-quality urban amenity, roads, utilities and services necessary to support development and provide certainty for future private sector investment.

1.2.4 Bradfield City Centre

Bradfield City Centre is located to the south-east of the new Western Sydney International Airport at the intersection of Badgerys Creek Road and The Northern Road.

Bradfield City Centre will be a beautiful and sustainable 22nd Century City. It will foster the innovation, industry and technology needed to sustain the broader Aerotropolis and fast track economic prosperity across the Western Parkland City. Australia's newest city centre – a 24-hour global metropolis with facilities for research, innovation and advanced manufacturing, education and housing.

The draft Master Plan for BCC has been endorsed by a Technical Assurance Panel (TAP) comprising State agencies and LCC. It has been submitted to DPHI and was on public exhibition. The draft BCC Master Plan defines the location of future buildings, streets and parks, as shown in **Figure 2**.

Bradfield City Centre will be centred around a new Metro Station that is expected to be operational in 2026, in line with the opening of the new *Western Sydney International Airport*. It is anticipated that several buildings within Bradfield City Centre will be operational at the same time as the Metro opening.

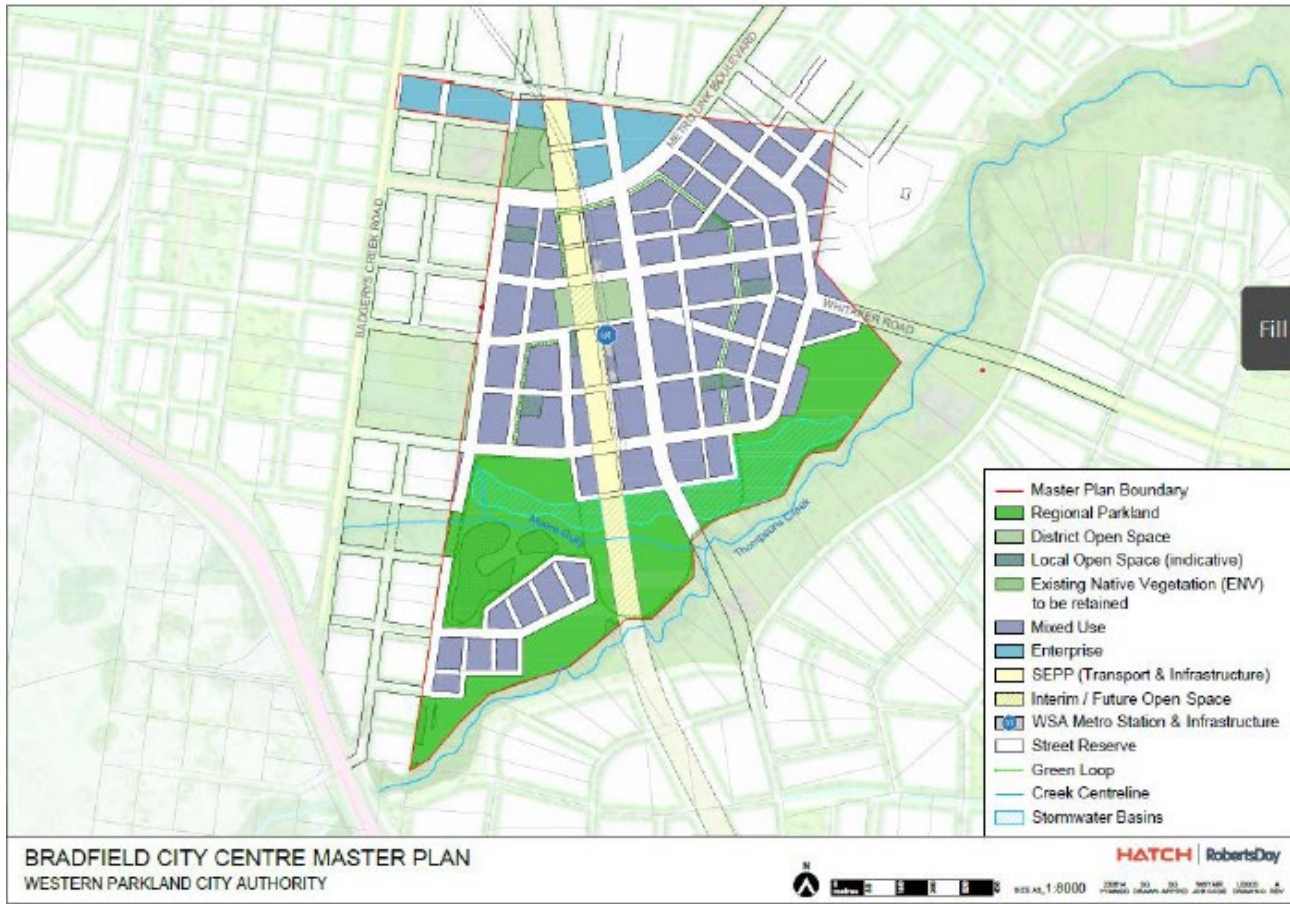
Initial development activity facilitated by WPCA is focused on the development of several high technology focused buildings. These buildings will facilitate the earliest economic development activity within the Bradfield City Centre and establish a standard for future stages of development.

The proposed Stage 2A Enabling Works activity includes the delivery of roads and service authorities' infrastructure to prepare a section of the Bradfield City Centre for future development and to ensure that Bradfield City Centre can be delivered in line with the scheduled opening of the future Western Sydney International Airport in 2026. The Stage 2A Enabling Works are entirely consistent with the overarching draft BCC Master Plan, including the road alignments. The new

roads have been designed to accommodate new bus services to be developed by Transport for NSW. It should be noted that the bus interchange is outside of the Stage2A REF extent.

The TAP endorsed draft BCC Master Plan proposes to amend the street hierarchy map within the Precinct Plan and proposes a greater variety of street types with a finer grain structure. These roads were identified in the TAP process, which included consultation with Transport for NSW and LCC. The REF road layout is generally in accordance with the requirements of the Precinct Plan and WSA DCP and is entirely consistent with the draft BCC Master Plan.

Figure 2 Bradfield City Centre Draft Master Plan



Source: WPCA

1.2.5 First Building SSD and Sydney Metro Western Sydney Airport SSI

There are two projects currently under construction near the site - First Building is a State Significant Development (**SSD -25452459**) located on the northern side of Stage 2A site and Sydney Metro – Western Sydney Airport (**SM-WSA**) Aerotropolis Station located on the eastern side of Stage 2A site.

Consultation with various stakeholders including LCC, Sydney Water, Endeavour Energy and Sydney Metro was carried out during the design development of REF design. The design coordination will continue during the detail design. Civil and utility infrastructure design of the roads within the Metro Lease Area will be carried out by Sydney Metro.

The Stage 2A REF does not seek to alter any works previously approved under the SSDA and SSI.

The existing sediment control and drainage basins will not be altered under the REF and future connections to the Stage 2A works will be completed via the relevant planning application processes.

1.3 Activity Description Under the T&I SEPP

Activities to be carried out under Part 5 of the EP&A Act by WPCA are identified in Chapter 2 of the T&I SEPP. The following table identifies the range of activities proposed to be carried out under this REF as part of the Stage 2A Enabling Works.

Table 1 T&I SEPP - Identification of proposed Part 5 activities under Chapter 2 of T&I SEPP

Activity – Development permissible without consent	Applicable (Yes/No)
Electricity Generating Works (Section 2.38)	No
Electricity Transmission or Distribution Networks (Section 2.44)	Yes
Flood mitigation work (Section 2.56)	No
Parks and other public reserves (Section 2.73)	No
Roads and road infrastructure facilities (Section 2.109)	Yes
Electric vehicle charging units (Section 2.124)	No
Sewerage systems (Section 2.126)	No
Stormwater management systems (Section 2.137)	Yes
Telecommunications and other communication facilities (Section 2.141)	Yes
Water supply systems (Section 2.159)	Yes
Waterway or foreshore management activities (Section 2.165)	No

1.4 Project Information

This REF has been prepared by Urbis in accordance with the following plans and supporting information:

Table 2 Supporting Information

Documents/Plans	Author	Reference
-----------------	--------	-----------

Civil Engineering Drawings	SMEC	Appendix A
Electrical Services Drawings	SMEC	Appendix B
Water Services Drawings	SMEC	Appendix C
Engineering Design Report	SMEC	Appendix D
Landscape Drawings	Taylor Brammer	Appendix E
Landscape Design Report	Taylor Brammer	Appendix F
Traffic Impact Assessment	SCT Consulting	Appendix G
Construction Noise and Vibration Impact Assessment	Rodney Stevens Acoustics	Appendix H
Construction Environmental Management Plan	SMEC	Appendix I
Geotechnical and Salinity Assessment (Addendum)	Douglas Partners	Appendix J
Bushfire Advice (Addendum)	Ecological	Appendix K
Biodiversity Impact Assessment Report (Addendum)	Biosis	Appendix L
Flood Impact Assessment (Addendum)	Worley Consulting	Appendix M
Aboriginal Cultural Heritage Assessment Report (Addendum)	Extent Heritage	Appendix N
Non- Aboriginal Heritage Assessment (Addendum)	Extent Heritage	Appendix O
Contamination Assessment (Addendum)	ERM	Appendix P
Response to Submissions Report	Urbis	Appendix Q
BCC draft Master Plan Salinity Investigation (inclusive of Salinity Management Plan)	Douglas Partners	Appendix R
Additional Biodiversity Advice	Biosis	Appendix S
MUSIC Model	SMEC	Appendix T
BCC draft Master Plan Geotechnical Report	Douglas Partners	Appendix U

2. Need and Options Considered

2.1 Strategic need for the proposal

The Stage 2A site forms part of the Bradfield City Centre precinct, one of five precincts surrounding the Western Sydney International Airport. The Western Parkland City Authority (**WPCA**) is the NSW Government agency responsible for delivering, coordinating, and attracting investment to the Western Parkland City including Bradfield City Centre. Bradfield City Centre sits at the heart of the Western Sydney Aerotropolis, the area surrounding the Western Sydney International Airport.

The Stage 2A Enabling Works (which forms the basis of the subject REF) will provide the high-quality urban amenity, roads, utilities, and services necessary to support development and provide certainty for future private sector investment.

The Stage 2A Enabling Works covers a site area of approximately 38 hectares of land within the broader Bradfield City Centre site and involves the construction of new master planned roads, streetscapes, civil works and public utilities. The proposed activity will therefore ready the site for the future development of Bradfield City Centre.

The Stage 2A Enabling Works are focused on delivering fully serviced development blocks. Completion of these works will enable fully serviced super lots to be developed by WPCA or through private sector partners that will contribute to and support the early activation and place making for the Bradfield City Centre.

2.2 Alternatives and options considered

“Do Nothing”

Bradfield City Centre could not be delivered within the required timeframes without the proposed enabling works which will support and facilitate future development within the centre. Without this proposal, the City Centre, which is proposed to deliver more than 20,000 jobs, 10,000 new homes and 36 hectares of open space will be unable to be completed without further development applications being lodged to complete the works which will extend the timeline of the proposal’s delivery.

Bradfield City Centre which is proposed to support the Western Sydney Aerotropolis would therefore be unable to be delivered in a timely and organised manner if the proposed works are not delivered through the REF pathway.

Alternative Location

The location of the new roads are generally consistent with the Precinct Plan, the detailed planning framework to enable the coordinated delivery of the Aerotropolis. In addition, proposed locations of supporting infrastructure, including stormwater, is required in this location due to the specific catchment and works proposed. Alternative locations would not have provided an efficient and permeable road network consistent with the Precinct Plan as well as not have been suitable locations within the stormwater catchments connected to other development currently proposed in Bradfield.

Further, the proposed location of new roads and other infrastructure has been informed by the TAP endorsed draft BCC Master Plan. The Master Plan establishes the proposed layout and urban framework for all future development of the precinct. Alternative locations were explored throughout the master planning process and the ultimate location of roads and infrastructure were agreed following extensive environmental assessment to determine the most suitable locations for roads and infrastructure.

The proposed infrastructure will specifically support the development and growth of Bradfield City Centre and is considered the most appropriate outcome for the intended future use of the site for the following reasons:

- The site is appropriately located with a future employment and mixed-use area.
- The potential impacts of the proposal can be suitably mitigated within the site.
- The site is well located in terms of access to the regional road network.
- The potential impacts of the proposed activity are appropriate based on the site context and approved mitigation measures.

Preferred Option

The Stage 2A Enabling Works are consistent with the TAP endorsed draft BCC Master Plan, as well as with the principles of the Precinct Plan and general framework established for future development within the Bradfield City Centre and therefore is the preferred option.

3. Site and Surrounding Context

3.1 Site Location and Description

Bradfield City Centre is located at 215 Badgerys Creek Road, Bradfield and is legally described as Lot 3101 in Deposited Plan (DP) 1282964. The site is comprised of a single 114.9-hectare parcel of land within the Liverpool Council Local Government Area (LGA) and is owned by the WPCA.

The Stage 2A Enabling Works covers a site area of approximately 38 hectares of land within the broader Bradfield City Centre site as shown in **Figure 3**.

Bradfield City Centre is situated within Western Sydney Aerotropolis, approximately 56km south-west of the Sydney CBD and 50km from Sydney Kingsford Smith Airport. The site is located to the south-east of the new Western Sydney International Airport at the intersection of Badgerys Creek Road and The Northern Road.

The site is accessible from Badgerys Creek Road at the north-western corner. Badgerys Creek Road is a two-lane two-way regional road that connects Elizabeth Drive to the north (via a roundabout) and The Northern Road to the south (via a set of traffic signals). Currently there are no public transport services within 1 km of the Bradfield City Centre site apart from the 856 bus service which connects Bringelly to Liverpool CBD.

Badgerys Creek Road north will be closed in future when the second runway construction approaches and connectivity provided through the delivery of the Eastern Ring Road and other connections by delivered by Transport for NSW, Council or private developers.

The site is comprised of predominantly cleared land with patches of remnant bushland. The Stage 2A site topography generally grades from north to the south, towards Thompsons Creek. Site photographs are provided at **Figure 4**.

The site is currently bordered by rural-residential properties, which are zoned for mixed-use and enterprise development under the *State Environmental Planning Policy (Precincts - Western Parkland City) 2021 (SEPP (Western Parkland City))*. Thompsons Creek, a tributary running into Wianamatta South Creek, borders the south-eastern boundary of the broader Bradfield City Centre site.

As shown in **Figure 5**, the site is predominantly zoned MU mixed use, with a smaller area of ENT enterprise zone in the north, discrete areas of ENZ environment and recreation zone and a 60 metre wide major infrastructure corridor, reserved for future transport projects, running through the middle of the site.

There are two developments in the vicinity of the Stage 2A site area currently under construction:

- First Building, featuring Stage 1 of the Advanced Manufacturing Research Facility (AMRF) is a State Significant Development (SSD) located to the north of Stage 2A site area. First Building and the associated roads and utility infrastructure are currently under construction.
- Sydney Metro's Bradfield Station construction area is located to the east of the Stage 2A works area.

Figure 3 Stage 2A Site Plan



Source: SMEC

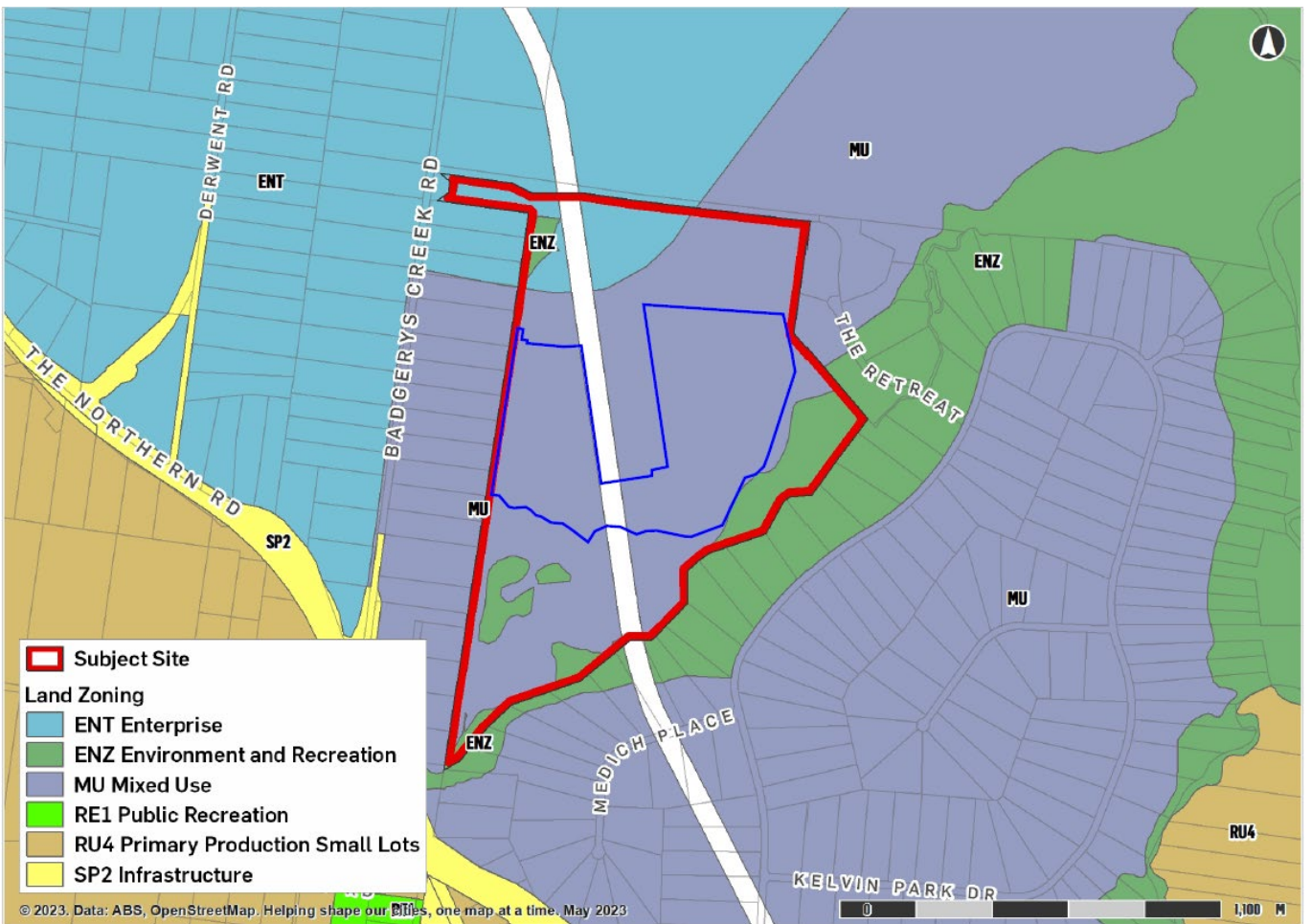
Figure 4 Site Photographs





Source: SMEC

Figure 5 Land Use Zoning Map



Source: Urbis GIS, 2023

3.2 Existing Site Characteristics

3.2.1 Flooding

As shown in **Figure 6**, flood affected land associated with Thompsons Creek affects the southeastern part of the broader Bradfield City Centre site, however the Stage 2A site is not identified as flood affected land.

3.2.2 Bushfire

As shown in **Figure 7**, the majority of the Stage 2A site is identified as Category 3 – Medium Risk bushfire prone land. A 100m buffer exists for Category 1 Vegetation within Thompsons Creek. However this land does not form part of the Stage 2A site.

3.2.3 Native Vegetation

As shown in **Figure 8**, the site is not identified as a high biodiversity value area. The Stage 2A site, as defined by the extent of proposed works, is predominantly cleared land with patches of remnant bushland. The Stage 2A site is surrounded by the broader Bradfield City Centre site which includes adjacent areas likely to be directly or indirectly affected by the proposal. This includes areas of native vegetation, as well as potentially receiving waterbodies in the locality including Moore Gully and Thompsons Creek.

3.2.4 European Heritage and Archaeology

As shown in **Figure 9**, the broader Bradfield City Centre site is not identified as a heritage item or heritage conservation area. A state listed heritage item 'Kelvin Park Group' adjoins the Bradfield City Centre site. It includes site landscaping, homestead, kitchen wing, servant's quarters, coach house, two slab barns and relics.

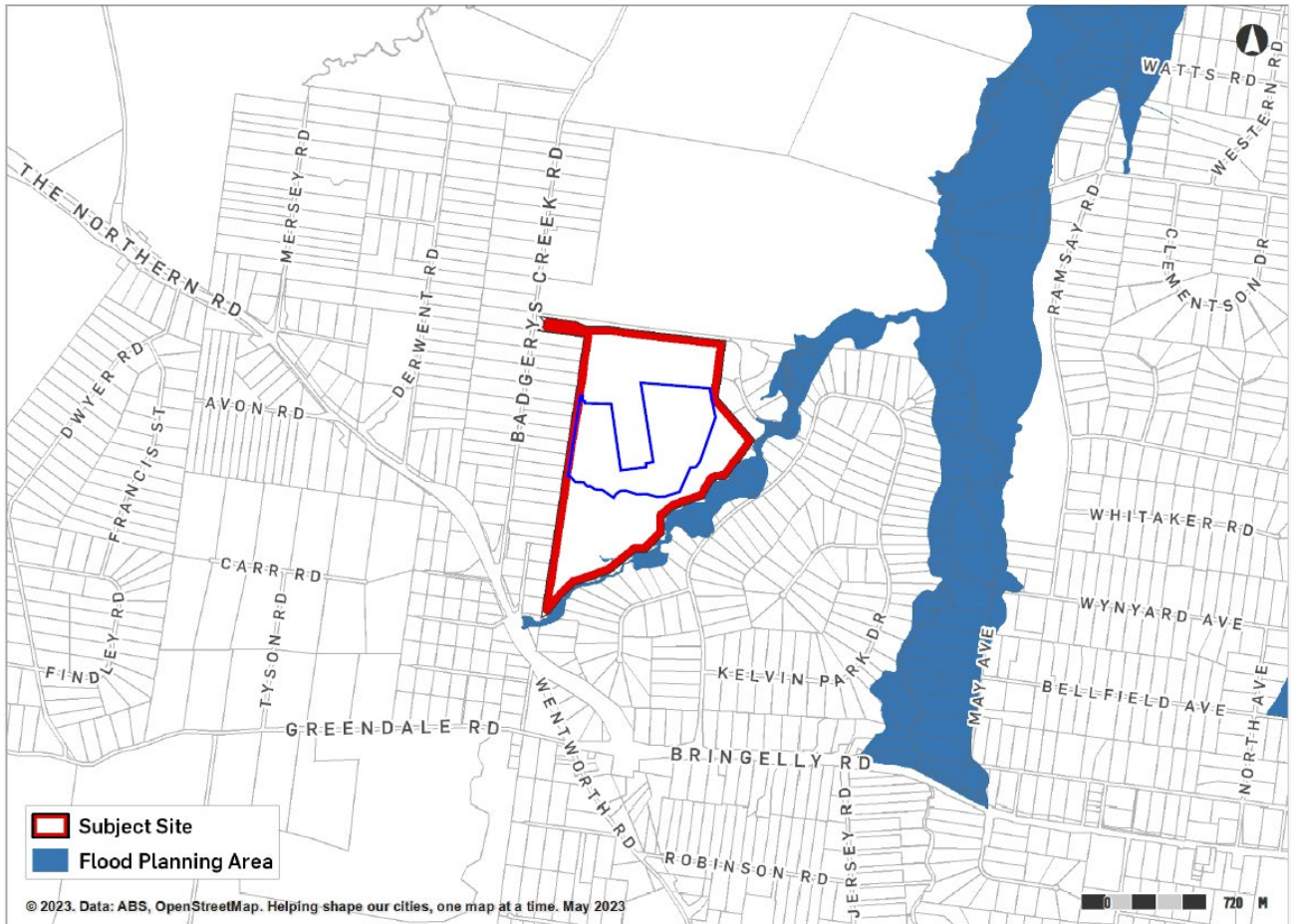
3.2.5 Aboriginal Heritage

A total of seven (7) AHIMS sites are located within the boundary of Stage 2A site.

3.2.6 Salinity

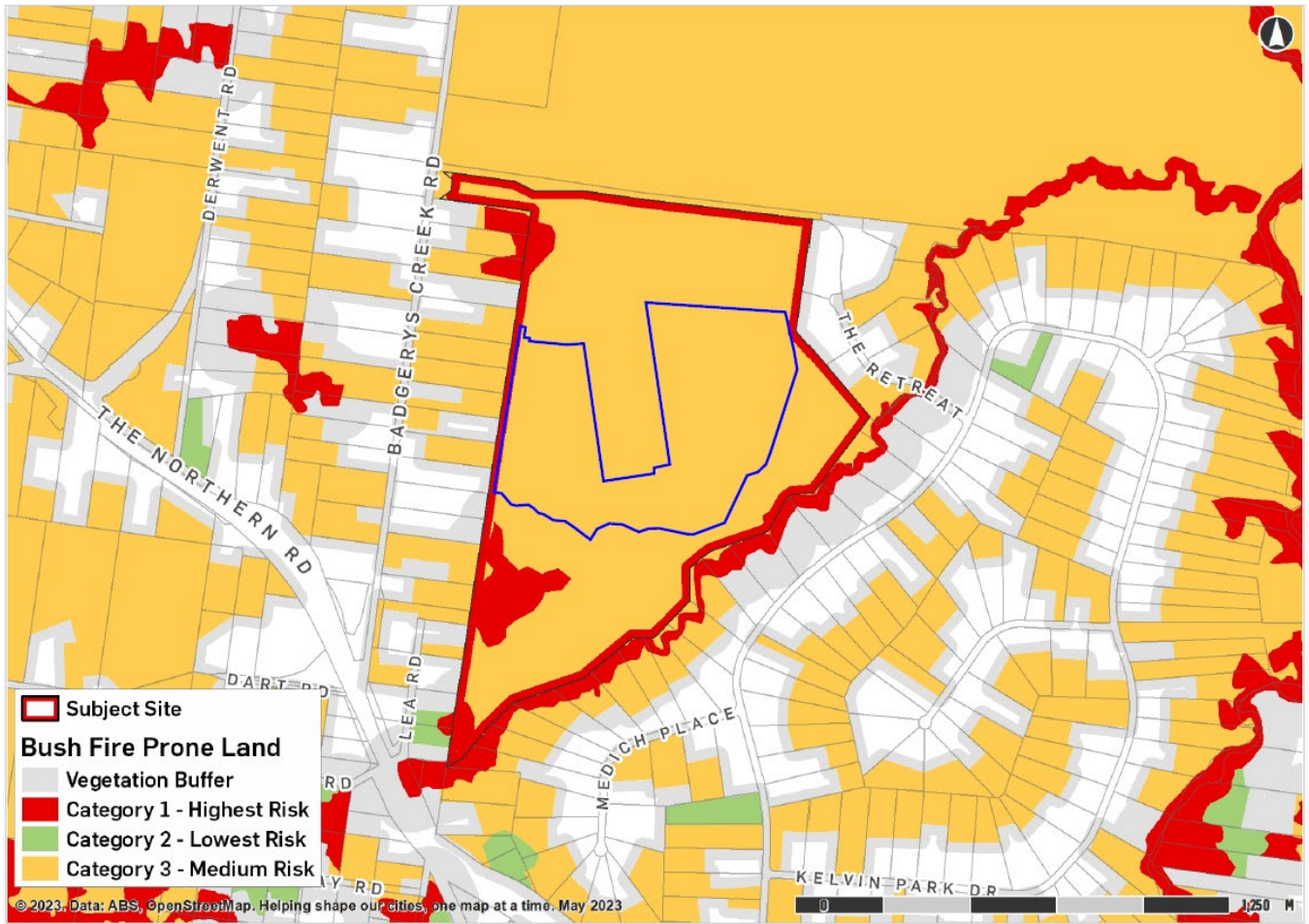
As shown in **Figure 10**, the site has known salinity along Thompsons and Moore Gully with moderate salinity potential in the remainder of the site.

Figure 6 Flood Planning Area Map



Source: Urbis GIS, 2023

Figure 7 Bushfire Prone Land Map



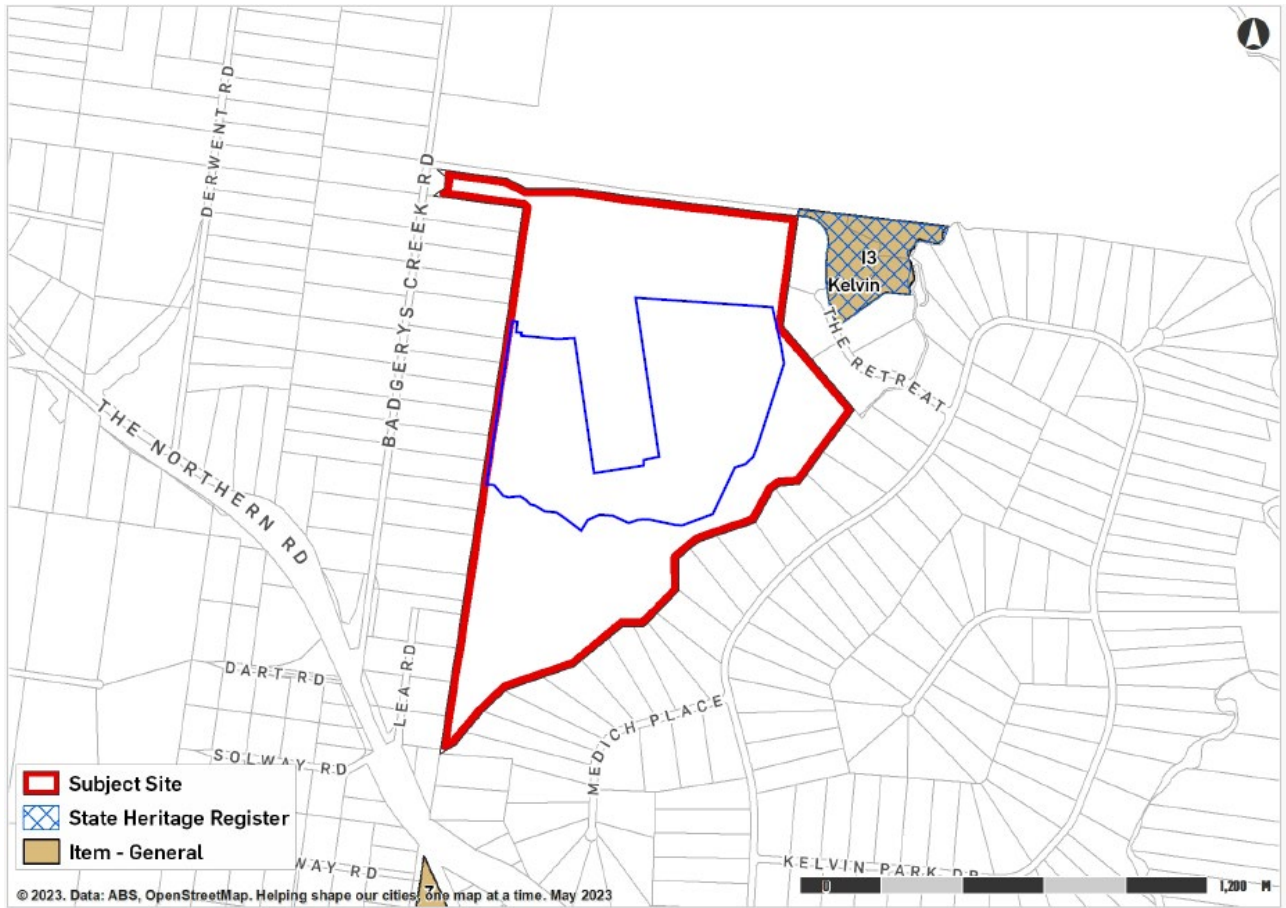
Source: Urbis GIS, 2023

Figure 8 High Biodiversity Value Area Map



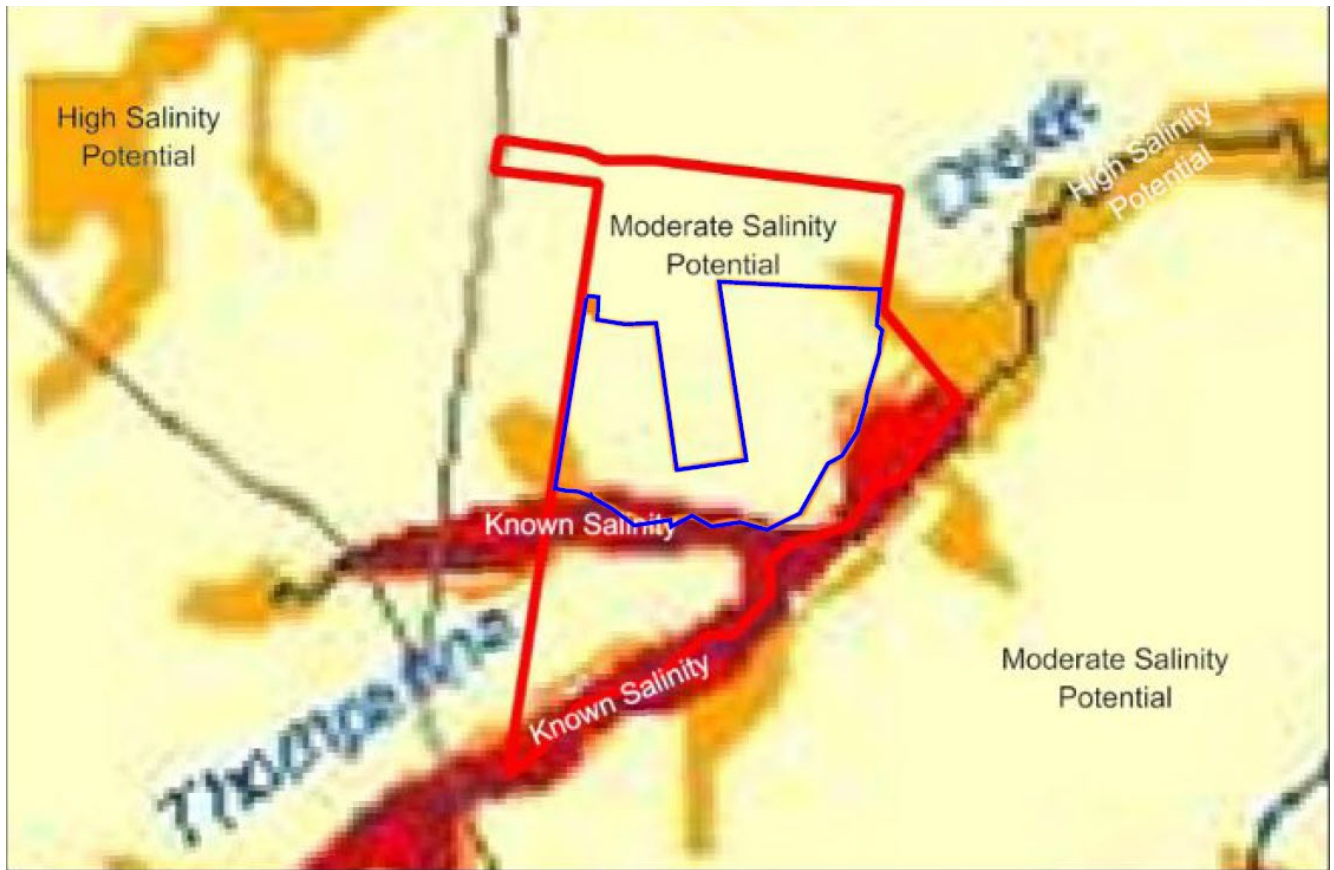
Source: Urbis GIS, 2023

Figure 9 Heritage Map



Source: Urbis GIS, 2023

Figure 10 Regional Salinity Mapping



Source: Douglas Partners, 2023

4. Proposed Activity

4.1 Overview

The Stage 2A Enabling Works covers a site area of approximately 38 hectares of land within the Bradfield City Centre site, and involves delivery of new master planned roads, streetscape works, civil works and public utilities to be delivered in a staged construction scheduled to be completed by 2026.

Specifically, the proposed activity consists of the following:

- Construction of new roads and associated road infrastructure.
- Site clearing (including removal of vegetation) and associated earthworks.
- Provision of service authority utilities within the road corridors.
- Street landscaping.
- Drainage and stormwater infrastructure (including temporary stormwater basins).
- Stockpiling of excess soil.
- Construction of temporary haul roads during construction.

The Stage 2A Enabling Works are focused on delivering full serviced development blocks. This work includes bulk earthworks, civil road works, grading and levels for the site, public utilities, open space, and street landscaping. Completion of these works will enable fully serviced super lots to be developed by WPCA or through private sector partners that will contribute to and support the early activation and place making for the Bradfield City Centre.

The REF is accompanied by design plans and a range of supporting technical studies which had been prepared to inform the proposed design. An extract of the proposed site plan is provided at [Figure 11](#) and a general arrangement plan prepared by SMEC is provided at [Figure 12](#).

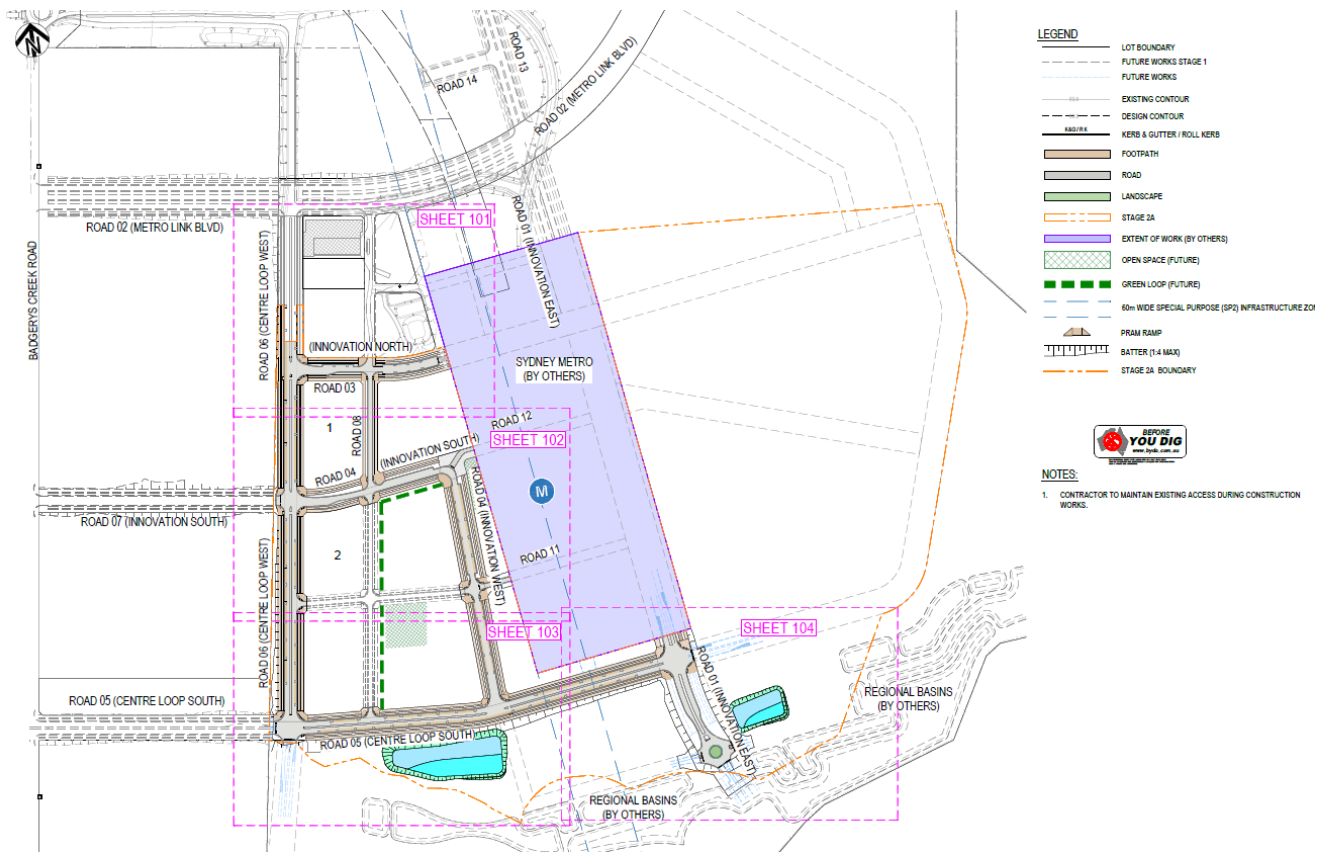
The proposed road alignments and civil infrastructure for the Stage 2A Enabling Works are generally in accordance with the Precinct Plan and WSA DCP and are consistent with the TAP endorsed draft BCC Master Plan.

Figure 11 Proposed Stage 2A Site Plan (Stage 2A boundary shown in orange)



Source: SMEC, 2023

Figure 12 General Arrangement Plan



Source: SMEC, 2023

4.2 Detailed Description of Proposed Works

An Engineering Design Report (refer to **Appendix D**) has been prepared by SMEC which details the proposed civil and utility works to be undertaken under this REF. The report confirms that the proposed civil design is consistent with the TAP endorsed draft BCC Master Plan and meets the relevant requirements of the Precinct Plan and WSA DCP.

A comprehensive set of Civil Engineering Drawings prepared by SMEC is provided at **Appendix A**.

4.3 Road Design

4.3.1 Road hierarchy

A key element of the proposed Stage 2 Enabling Works is the delivery of several new roads. Innovation East (Road 01) will be a transit boulevard. Centre Loop South (Road 05), Centre Loop West (Road 06) are 30m wide and Innovation North (Road 03) is a 27.4m wide collector roads. Other roads to be delivered within Stage 2A are local roads.

As part of the construction of the new roads, footpaths and off-road bike lanes are proposed in road verges. On street parking will also be provided on all roads except internal roads Road 08, 09 and 10. Tree pits are proposed on the roads to promote rainwater harvesting and Water Sensitive Urban

Design (WSUD).

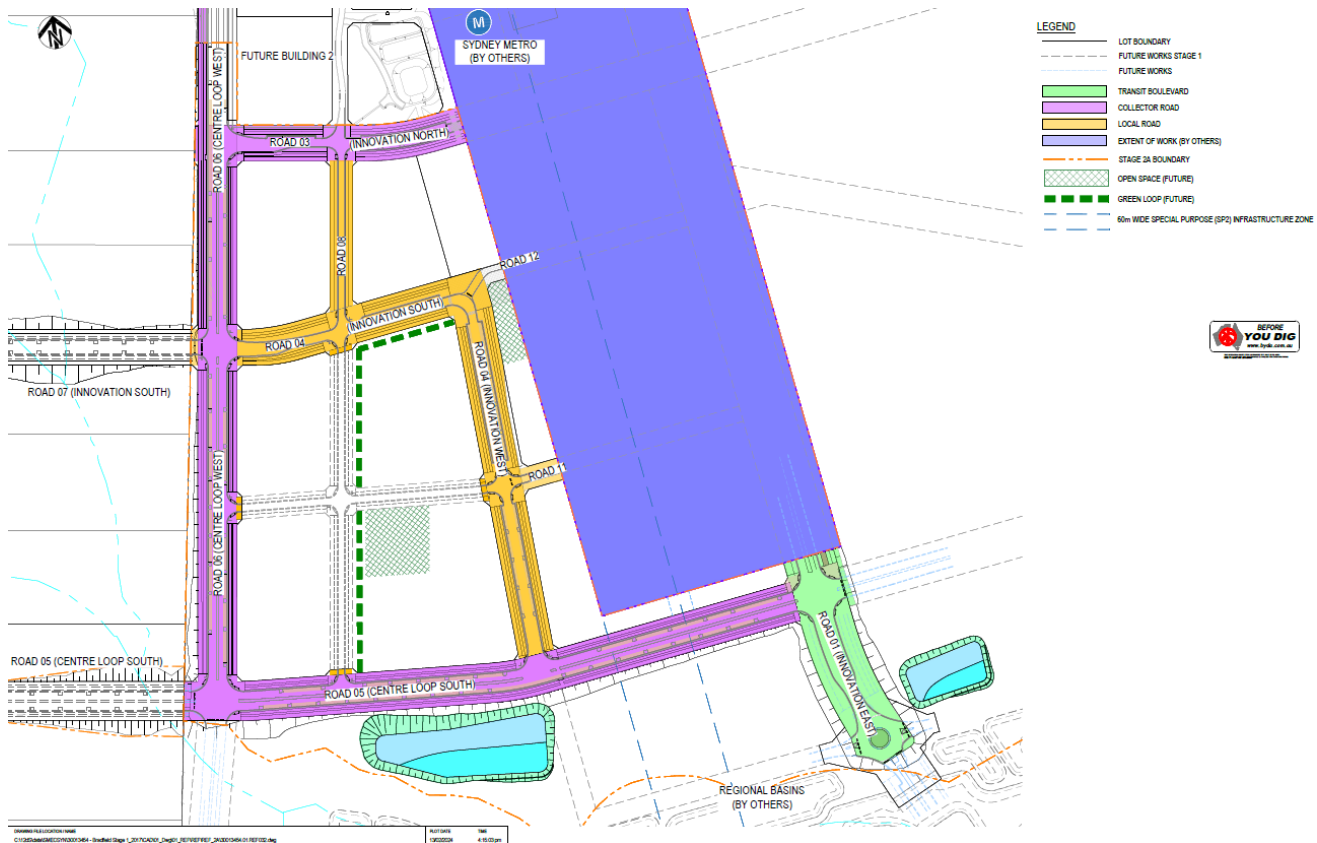
Innovation South and Innovation West are located near the Sydney Metro Bradfield Station, and as a result allow for kiss and ride, taxi allocation and rail replacement bus parking. The road, pedestrian and bike network will provide an active interface and functionality between Sydney Metro Bradfield Station and other areas of the development.

A summary of the proposed road network to be constructed under this REF is summarised in **Table 3**. An extract of the proposed road hierarchy plan is provided at **Figure 13**.

Table 3 Stage 2A – Proposed Road Network

Road	Road Reserve	Verge
Innovation East (Road 1)	39.4m (16.4m carriageway)	3m wide footpath, 4m wide bike lane
Centre Loop South (Road 05) Centre Loop West (Road 06)	30m (15m carriageway)	3m wide footpath, 2m wide bike lane
Innovation South (Road 4)	28.4m (10m carriageway)	3m wide footpath, 2m wide bike path
Innovation West (Road 3)	27.4 (11.2m carriageway)	3m wide footpath, 2m wide bike path
Innovation West (Road 4)	30m (12.1m carriageway)	2m and 3m wide footpath
Road 08, 09, 10	17m (6m carriageway)	3m wide footpath

Figure 13 Road Hierarchy Plan



Source: SMEC, 2023

4.3.2 Road cross sections

Typical road cross sections have been prepared by SMEC for the proposed road network which are generally in accordance with the TAP endorsed draft BCC Master Plan and AECOM’s Transport Management Accessibility Plan typical sections.

Consultation with various stakeholders including LCC and TfNSW was carried out in the preparation of the draft Master Plan. Stage 2A plans document road typical sections. Each section documents carriageway and verge widths, footpath, cycle lanes and landscape features. The proposed and future services allocations are also documented on road typical sections to demonstrate the location of utilities allocation and spacing. An extract of a typical road section for a 30-metre-wide road is provided in **Figure 14**.

Road designs are concept and subject to final detailed design, with ongoing consultation with TfNSW and LCC.

4.3.3 Intersection design

As outlined in the Traffic Impact Assessment (refer to **Appendix G**) prepared by SCT Consulting, the proposed intersection design traffic modelling has been developed using SIDRA to determine Levels of Service at each intersection and the best treatment required. **Figure 15** identifies the intersections within the Stage 2A area of works.

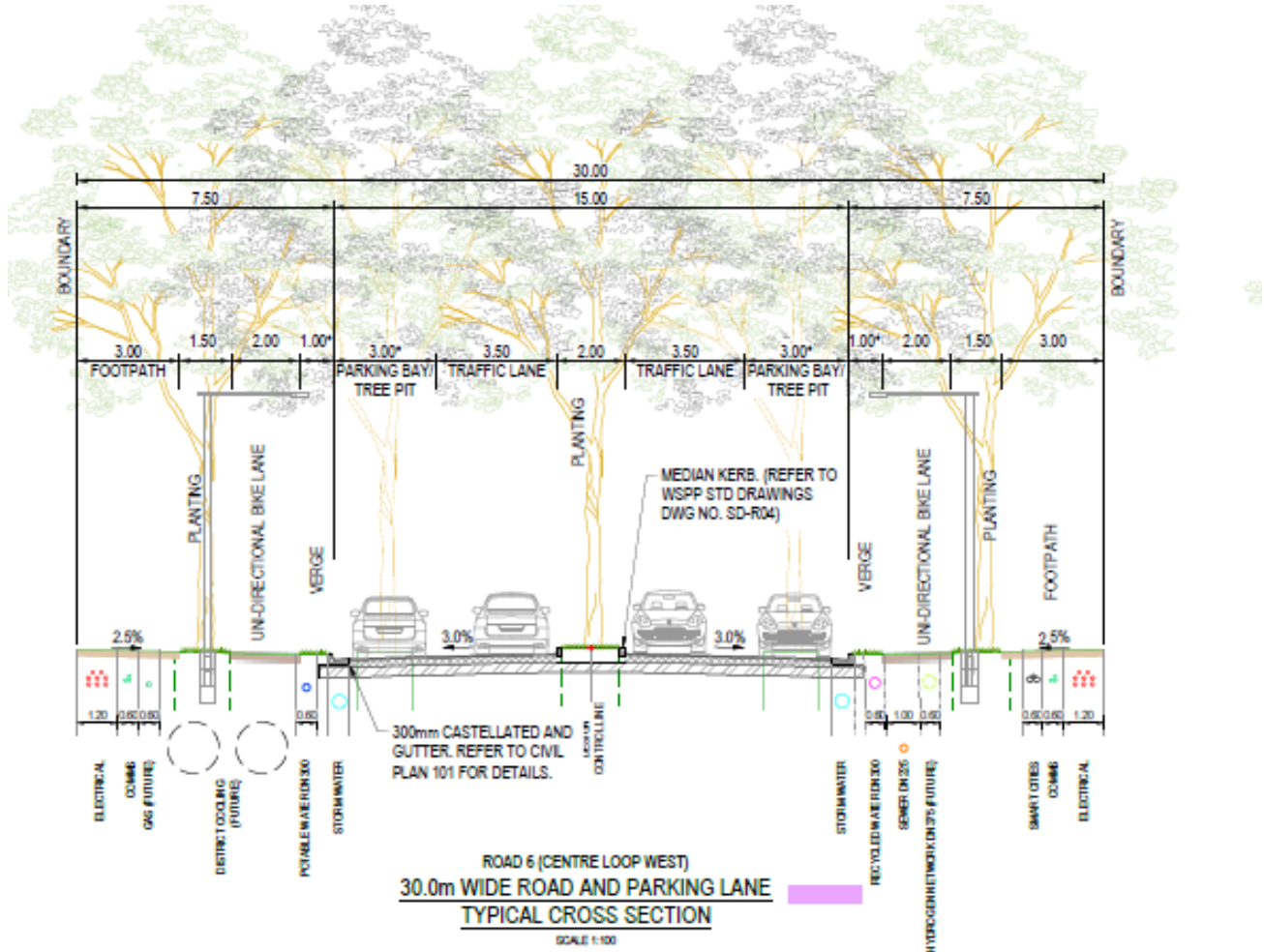
Intersections 3 and 5 are proposed to be priority intersections whereas intersections 6, 7 and 8 are proposed to be signalised in the future. The Traffic Impact Assessment identifies intersections for the years 2026, 2036 and 2056. The intersections geometrical design of Stage 2A has considered

the ultimate intersection design for the year 2056 within the configuration of the priority intersection design.

4.3.4 Pavement Design

Concept pavement plans have been prepared for the Stage 2A design. A detailed pavement design will be prepared by a geotechnical engineer to LCC requirements. One layer of 30mm AC10 will be constructed as a wearing course on all roads. The second layer of 30mm AC10 will be placed once majority of the lots are developed, or as agreed with LCC during the construction approval and handover phase. Roundabout pavement will include a minimum 80mm AC14 SBS modified AC.

Figure 14 Typical Road Cross Sections



Source: SMEC, 2023

Figure 15 Stage 2A Road Intersections



Source: SMEC, 2023

4.4 Earthworks

The proposed Stage 2A earthworks are generally in accordance with the TAP endorsed draft BCC Master Plan and AECOM’s Earthworks Report. An extract of the cut and fill plan is provided at **Figure 16**.

Existing Stage 2A site topography generally grades from north to the south, towards Thompsons Creek. The design grading generally follows the existing topography, maintains flow regime and creates flat, free-draining lots. The proposed design requires approximately 48,000m³ of material to be cut-to-fill, and approximately 59,000m³ of excess material to be used as clean fill in a location to the east of the Stage 2A site area. These volumes are preliminary and are subject to change during detailed design.

The above-stated volumes allow for topsoil strip of 150mm across the entire earthworks area, allowance for 100mm topsoil replacement in lots and landscaped areas. The volumes do not include road boxing, utility trenching or bulking factor.

4.4.1 Sediment and Erosion Control

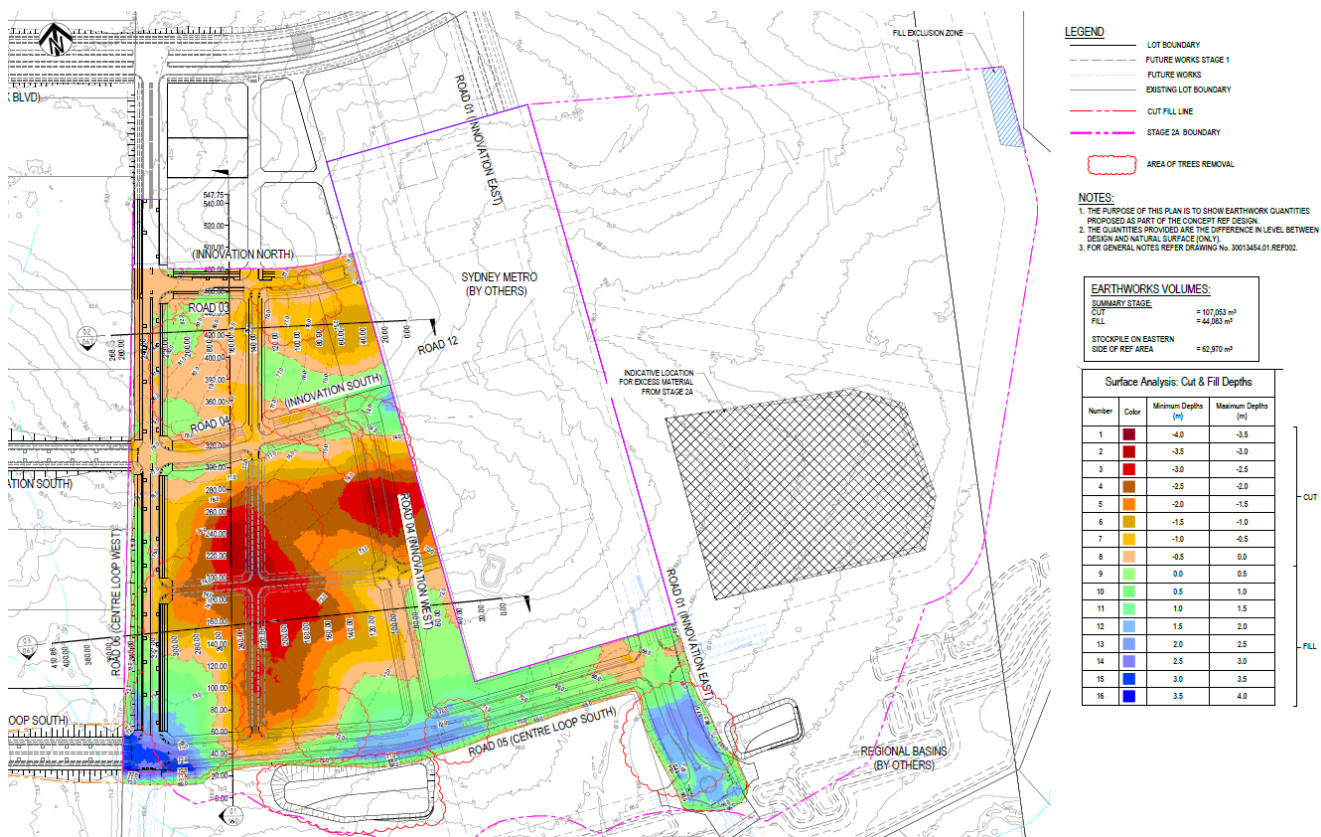
As part of the works, erosion and sedimentation controls will be constructed generally in

accordance with the design drawings, Sydney Water requirements and Landcom’s “Blue Book” – Managing Urban Stormwater: Soils and Construction. Sydney Water is the regional stormwater authority for the Aerotropolis, while LCC is the responsible authority for the road drainage network.

The objectives of the erosion and sediment control for the development site are to ensure:

- Adequate erosion and sediment control measures are implemented prior to the commencement of construction and are maintained during construction.
- Construction site runoff is appropriately treated in accordance with the requirements of LCC and the WSA DCP.
- The bulk earthworks for Stage 2A will involve lot grading and road construction. All sediment and erosion controls will be maintained as required during construction.
- The proposed sediment basins will be utilised and maintained during civil construction to control soil loss.

Figure 16 Cut and Fill Plan



Source: SMEC, 2023

4.4.2 Construction Measures

Prior to any earthworks commencing on site, all erosion and sediment control measures will be implemented and maintained generally in accordance with the relevant specifications detailed in the civil design documentation. These measures will include:

- A perimeter fence around the site and a security fence is to be placed around the proposed sediment basin as required.
- Construction of diversion swales to divert upstream clean water.

- Installation of sediment fencing around disturbed areas, including any topsoil stockpiles.
- Installation of silt arrestors to collect site runoff and retain suspended particles.
- Placement of straw bales around and along proposed catch drains and around stormwater drainage pits.
- Installation and maintenance of a stabilised access point at each site exit to avoid trailing of sediment onto the surrounding road network.
- Maintenance of the sediment basin.
- A complete list of all mitigation measures required to be implemented to address sediment and erosion impacts is provided in this REF.

4.5 Stormwater Management

Stormwater management is proposed in accordance with the Aerotropolis planning framework and AECOM's Integrated Water Cycle Management Plan.

As part of the Stage 2A Enabling Works, an interim stormwater management solution will be provided until the regional basins are delivered as part of the broader development of the Bradfield City Centre site. Bioretention / detention basins are proposed for the interim stormwater management. It is anticipated the basins will act as sediment basins during construction and site establishment over 10-12 months and will then be converted into bioretention basins.

4.5.1 Stormwater Catchment

Existing catchment

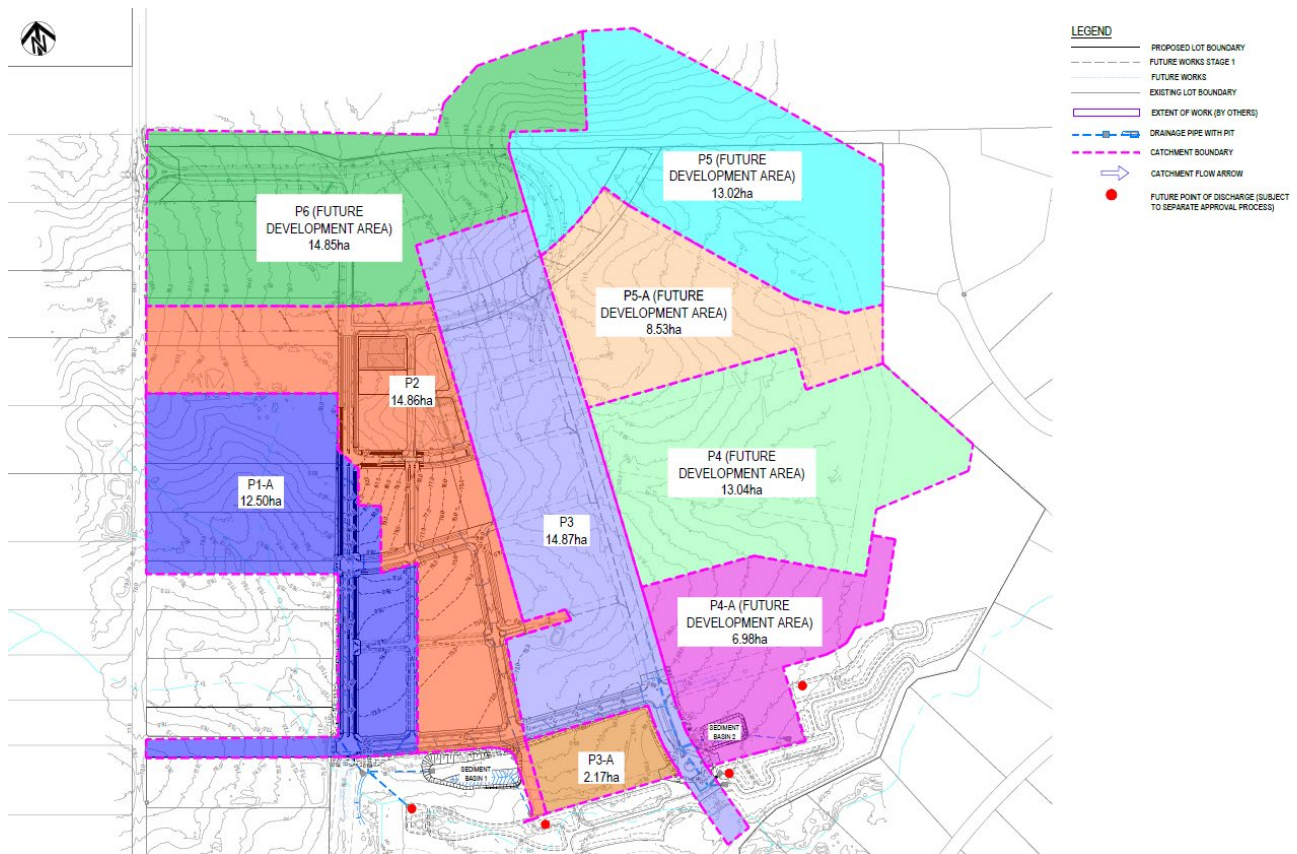
The majority of the Stage 2A existing catchment discharges to the east towards Thompsons Creek and remainder of the catchment discharges towards Moore Gully Creek in the south.

Proposed catchment

An extract of the proposed developed catchment is provided in **Figure 17**. There are three main sub-catchments within Stage 2A:

- 1) P1-A - 12.5Ha catchment discharges to upstream Basin A;
- 2) P2 - 14.86Ha catchment discharges to Basin B;
- 3) P3 - 14.87Ha catchment discharges to Basin C.

Figure 17 Proposed Catchment Plan



Source: SMEC, 2023

4.5.2 Interim Water Quantity

An interim stormwater strategy of the detention basins is proposed until the regional basins are constructed. To calculate design flowrates at the development site, computer-based models of the existing and proposed catchments were modelled using DRAINS.

The post-developed conditions DRAINS model for the site was developed using LCC design parameters. This model was used to size the detention basins to ensure permissible site discharge (PSD) for the development was achieved.

The proposed stormwater management system will consist of two interim bio-retention basins: Basin 1 and Basin 2. These basins will be used to attenuate the flows during the design storm periods and meet the pre-developed PSD flows. The proposed basins will utilise a primary, secondary and weir outlet system to meet the required PSD flows at point of discharge. A copy of the MUSIC model has been provided at **Appendix T**.

4.5.3 Interim Water Quality

Site water quality management is provided to ensure that stormwater runoff from the post-developed site meets the minimum required treatment standard before site discharge. This will ensure that local receiving waterways are protected from pollution such as excessive levels of nitrogen, phosphorous and sediment which could cause environmental damage such as erosion or algal blooms.

To achieve stormwater quality targets a treatment train has been developed. The stormwater

treatment train has two stages of treatment; a gross pollutant trap (GPT) will provide primary treatment by capturing gross pollutants. The secondary treatment is provided by a bio-retention/raingarden basin with sand filter and vegetation to remove nutrients such as nitrogen and phosphorous.

4.5.4 Temporary Bio-Retention Basins

Two bio-retention basins have been proposed to achieve water quality treatment for the development. The filter material has been designed with a 0.5m filter depth. Filter media parameters are in accordance with FAWB specifications.

4.5.5 Road Drainage

All internal road drainage for the Stage 2A Enabling Works will be designed in accordance with the relevant specifications. The preliminary drainage design has been prepared to confirm the pit spacings and pipe sizes. Site hydrology has been analysed in DRAINS. All proposed drainage pipes have been analysed with a pipe roughness of 0.6mm.

Tree pits are proposed on the roads to promote rainwater harvesting and WSUD. The minor design storm (5 per cent AEP event) is conveyed by the proposed stormwater drainage system whilst maintaining the minimum freeboard requirements for a minor system in accordance with Council's specifications. Near the areas where stormwater conveyance through an overland flow path is not possible, the stormwater trunk drainage has been designed to convey 1 per cent AEP flows.

Modelling of the major design storm (1 per cent AEP event) has indicated that all flows within the development are contained within the proposed road reserves and are at safe levels.

4.6 Utilities

The Stage 2A Enabling Works includes the provision of various utilities that will be provided in the road reserve to service future mixed-use development within Bradfield City Centre. Concept designs of potable water, recycled water, wastewater, electrical, lighting and telecommunication have been prepared for Stage 2A and are provided at **Appendix B** and **Appendix C**.

The provision of services to the Bradfield City Centre will be in accordance with the TAP endorsed draft BCC Master Plan and AECOM's Utility Infrastructure and Servicing Report. The detail design will follow Stage 2A REF and will be submitted to each relevant authority for approval.

It is noted that any existing redundant service will be removed at the commencement of works. The proposed design has taken into consideration the location of existing utilities being currently constructed as part of the First Building. The utility design will ensure that continuous supply of services to First Building is provided throughout the proposed construction works.

Most of the utility connections are available near the Bradfield City Centre site, and therefore lead-in works are not expected. Existing utility infrastructure upgrades will be required to service the Bradfield City Centre. Some interim arrangements will also be required until the ultimate utility infrastructure is built.

4.6.1 Electrical Servicing

The site is located within the supply boundary of Endeavor Energy (EE). Initial electrical supply will be provided from North Bradfield Zone Substation, currently under construction by EE. The ultimate development of the Bradfield City Centre will require two additional zone substations. The development of these substations will be required progressively as the city centre develops further.

Electrical high voltage and low voltage network will be designed to EE specifications as specified in the Engineering Design Report. Provision for electrical vehicle charging will be provided on Centre Loop West and Centre Loop South roads.

4.6.2 Lighting

Street lighting will be provided. This will include a combination of standard street light columns and multi function poles (MFP). The Stage 2A works will not include installation of any MFP fixtures such as traffic signals, security cameras or telco modules. These may be installed later by LCC or a private proponent and subject to a separate planning pathway, including potential to be exempt development.

The MFP are intended to reduce clutter in the streetscape and incorporate several services including streetlights, traffic lights, 4G/5G antennas, etc.

All streets will be reticulated with spare conduits to allow additional services to be installed on the poles at a future date. All locations where smart poles are not initially installed will have a universal footing used to allow the columns to be swapped to smart poles in the future.

4.6.3 Smart City Technology

The development of the Bradfield City Centre will see increased use of emerging modern technology. The WSA DCP stipulates certain objectives and performance outcomes for the services and utilities including allowance for emerging smart city technology. The proposed design of the road reserves allows for the incorporation of future smart city technology.

4.6.4 Other Utilities

There is no existing trunk watermain within the Bradfield City Centre site and an existing trunk watermain in Badgerys Creek Road will be servicing the development. This trunk asset will provide sufficient water supply, fire flow and security of supply to the entire development via at least two connection points which will be determined at detail design stage.

The proposed sewer network is designed to handle the ultimate flow, mitigating the need for any future upgrades. The recycled watermain will be situated within the road verge, maintaining similar clearance requirements as the potable water main.

Connections to sewer and water mains will be subject to separate approvals by Sydney Water.

4.7 Streetscape Landscaping

Landscape Drawings and a Landscape Design Report have been prepared by Taylor Brammer Architects to support the Stage 2A Enabling Works and are attached at **Appendix E** and **Appendix F** respectively.

The Stage 2A works include the following streetscape landscaping works:

- Native street tree plantings in deep soil.
- Mass planted raingardens.
- Mass planted understory.
- Construction of cycleway.
- Permeable pavement.

An extract of the landscape master plan is provided at **Figure 18**

The proposed landscaping strategy has been informed by the Aerotropolis planning framework.

Key considerations for streetscape landscaping include:

- The revegetation and regeneration of native bushland.
- Creating aesthetic natural environments and improved air quality.
- Vegetating traffic islands to increase softscapes and create cooling comfort for pedestrians and cyclists.
- Utilising permeable paving to reduce stormwater runoff and pollution.
- Utilising crime prevention through environmental design (CPTED) principles to promote safety and security in public places.

The proposed activity seeks to incorporate an extensive tree planting strategy to achieve urban tree canopy targets. Overall, a total of 622 new canopy trees are proposed to be planted. This will ensure a tree canopy cover at maturity of over 55%.

The tree canopy strategy develops on established design and masterplan design principles including the Design with Country framework along with TAP endorsed draft BCC Master Plan documentation. This guidance documentation outlines the typical tree densities along with species listed from WSA DCP list to ensure an environmentally sustainable development is created.

Figure 18 Landscape Master Plan



Source: Taylor Brammer, 2023

4.8 Construction Activities

A Construction Environmental Management Plan (**CEMP**) has been prepared for the Stage 2A Enabling Works which outlines the methodology for the construction activities required.

During construction, the site will be accessible to all construction vehicles via Badgerys Creek Road. It is expected the volume of construction vehicles will be significant during all stages of construction as they may still occur concurrently with the Bradfield Metro Station construction works.

The majority of construction activities are proposed to be undertaken in accordance with standard hours as follows:

- Monday to Friday 7:00am to 6:00pm
- Saturday 8:00am – 1:00pm

In addition to the above, some non-intrusive construction activities will occur outside of the standard hours. A Mitigation Measure has been included in this REF to ensure that noisy activities only occur within standard hours. Overall, construction works associated with the delivery of the Stage 2A Enabling Works are anticipated to last for between 9 and 12 months.

4.9 Works Not Part of this REF

The rollout of essential infrastructure for Stage 1 of the draft BCC Master Plan will be developed in five sub-stages as shown in **Figure 19**. The extent of each stage is described below.

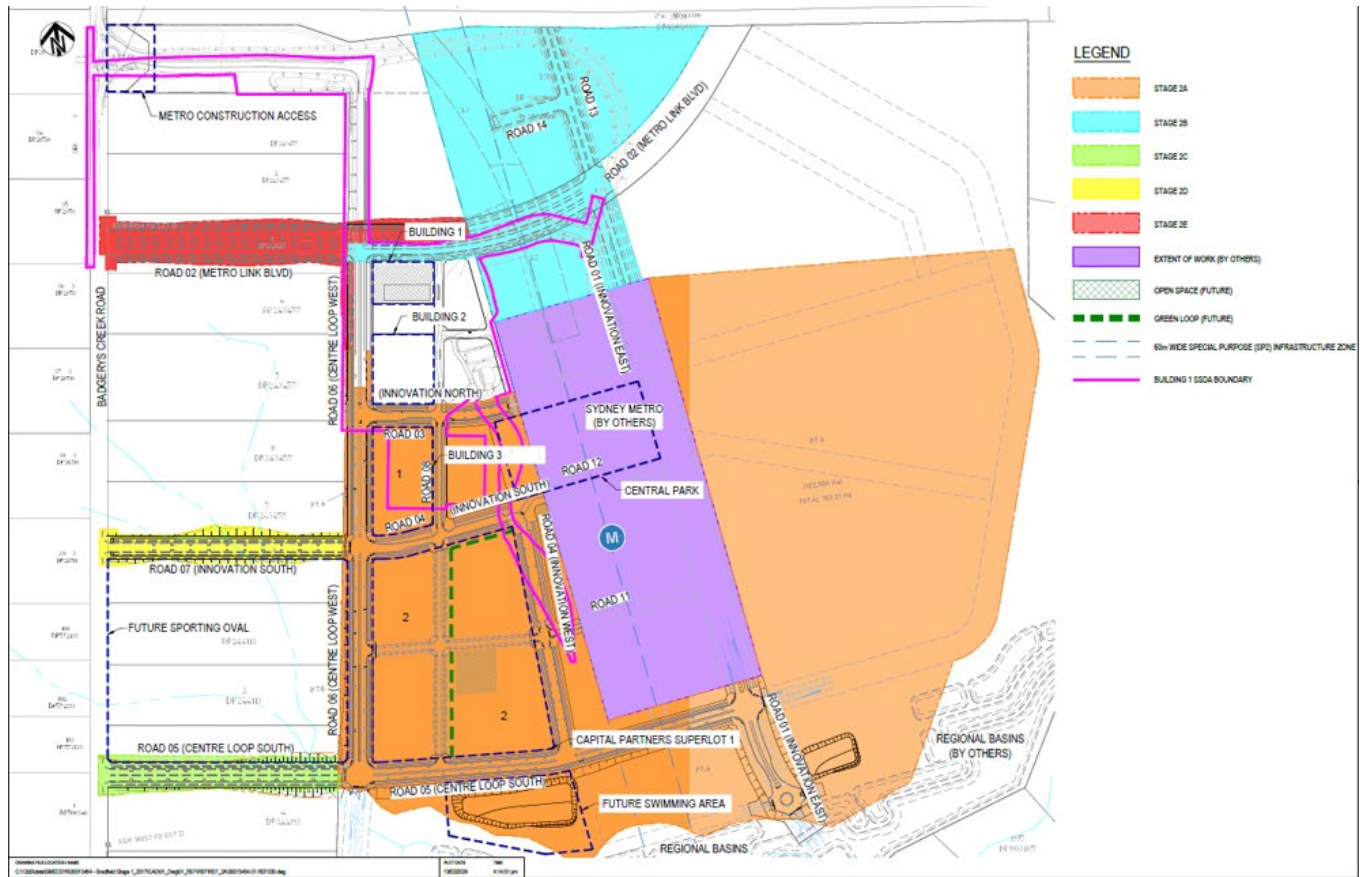
- Stage 2A (the subject REF) proposes the largest area of works and includes the primary trunk stormwater lines, roads and interface with the Sydney Metro – WSA Aerotropolis Station area.
- Stage 2C, Stage 2D and Stage 2E proposes the road connection and linkage between existing Badgerys Creek Road and Stage 2A.
- Stage 2B proposes the northern interface with the Metro, the Metro link Boulevard and the northern most roads.

The design of Stage 2A is described in this report. Stage 2B-E requires land acquisition and inputs from TfNSW and therefore, these stages will form part of a future approval process.

Regional stormwater infrastructure design is being prepared by Stantec (on behalf of the WPCA) and will be subject to a separate approval process.

In addition, the Sydney Metro – WSA Aerotropolis Station at Bradfield is not included within this scope of works and was approved under SSI-10051, in addition to the “First Building” which was approved under SSD-25452459.

Figure 19 Staging Plan



Source: SMEC, 2023

5. Statutory and Planning Framework

An assessment of the environmental impacts of the proposed activity has been undertaken against the applicable planning framework and legislation. The key documents reviewed include:

- *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
- *Environmental Planning and Assessment Act 1979 (NSW)*
- *Environmental Planning and Assessment Regulation 2021 (NSW)*
- *Biodiversity Conservation Act 2016 (NSW)*
- *Fisheries Management Act 1994 (NSW)*
- *State Environmental Planning Policy (Transport and Infrastructure) 2021*
- *State Environmental Planning Policy (Precincts – Western Parkland City) 2021*

Overall, the assessment concludes that the proposed activity can be undertaken as development permitted without consent under Part 5 of the EP&A Act, and the environmental impacts can be managed through appropriate mitigation measures. Further details of the legislative assessments have been provided in the sections below.

5.1 Commonwealth legislation

5.1.1 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* is the Australian Government's key piece of environmental legislation. The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (**MNES**) protected under the Act. Under the EPBC Act, activities that have potential to result in significant impacts on MNES must be referred to the Commonwealth Minister for the Environment and Water for assessment.

As identified in the Biodiversity Report Addendum (refer to **Appendix L**) prepared by Biosis to support the Stage 2A Enabling Works, typically impacts to MNES require further assessment, with any actions likely to cause significant impact requiring referral to the Commonwealth Minister for the Environment and Water.

However, in 2011 the Commonwealth Environment Minister endorsed the actions associated with the development of the Western Sydney Growth Centres as described in the Sydney Growth Centres Strategic Assessment Program Report (DECCW 2010). This approval was made under section 146B of the EPBC Act which has the same effect as an approval granted to development under Part 9 of the EPBC Act.

Therefore, with this approval, any development within the prescribed certified lands does not require separate referral, assessment of approval under the EPBC Act to be taken. As impacts to MNES associated with the Stage 2A Enabling Works are restricted to the prescribed certified lands, no further assessment is required.

Notwithstanding, a summary assessment of the MNES relevant to the broader Bradfield City Centre site (which includes the Stage 2A subject site) is summarised in **Table 4**.

Table 4 Assessment against MNES prescribed under the EPBC Act

Factor	Site specifics	Impact Assessment
Threatened species (flora and fauna)	18 flora species and 21 fauna species listed under the EPBC Act have been recorded or are predicted to occur in the locality.	Four threatened flora and four threatened fauna species listed under the EPBC Act were determined to have a moderate or greater likelihood of occurrence within Bradfield City Centre site. Assessment of these threatened species is not required as the impacts associated with the Stage 2A works are restricted to prescribed certified lands. These areas have been previously assessed and approval granted under the Sydney Growth Centres Strategic Assessment Program Report which has been endorsed by the Commonwealth Environment Minister.
Threatened ecological communities	<p>The Stage 2A works will result in the permanent removal of the following EPBC Act listed threatened ecological communities (TECs) from within the impact footprint:</p> <ul style="list-style-type: none"> Removal of 9.75 ha of native vegetation, of which 5.53 ha in high condition satisfies the listing criteria of Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest, and all conditions (high, moderate and low) satisfy the criteria of Cumberland Plain Woodland in the Sydney Basin Bioregion. Removal of potential habitat for 7 threatened flora species and 19 threatened fauna species, listed under the EPBC Act or BC Act, which are determined to have a moderate or greater likelihood of occurrence within the broader Bradfield City Centre site. 	Assessment of these TECs is not required as the impacts associated with the Stage 2A works are restricted to prescribed certified lands. These areas have been previously assessed and approval granted under the Sydney Growth Centres Strategic Assessment Program Report which has been endorsed by the Commonwealth Environment Minister. Notwithstanding this, areas of existing native vegetation within the Bradfield City Centre site and adjoining the Stage 2A work area will be protected during construction and managed to ensure ongoing conservation.

Migratory species	14 migratory species have been recorded or are predicted to occur in the locality.	Assessment of these migratory species is not required as the impacts associated with the Stage 2A site are restricted to prescribed certified lands. These areas have been previously assessed and approval granted under the Sydney Growth Centres Strategic Assessment Program Report which has been endorsed by the Commonwealth Environment Minister.
Wetlands of international importance (Ramsar sites)	There are 12 Ramsar sites in NSW, the closest one being Towra Point Nature Reserve in Kurnell, south of Sydney city.	The site does not flow directly into a Ramsar site, and the development is not likely to result in a significant impact. Assessment is not required as the impacts associated with the Stage 2A site are restricted to prescribed certified lands. These areas have been previously assessed and approval granted under the Sydney Growth Centres Strategic Assessment Program Report which has been endorsed by the Commonwealth Environment Minister.

5.2 State Legislation

5.2.1 Environmental Planning and Assessment Act 1979 (NSW)

The *Environmental Planning and Assessment Act 1979 (EP&A Act)* regulates development carried out across the State through two primary mechanisms:

- Part 4: Development Applications; or
- Part 5: Activity Approvals.

Pursuant to the T&I SEPP, the proposal does not require development consent from the applicable local Council under Part 4 of the Act. The proposal is instead captured under Part 5 of the Act, which relates to works prescribed by an environmental planning instrument as ‘development without consent’ when carried out by or on behalf of a public authority.

The relevant considerations under the EP&A Act are as follows:

- Section 5.5(1) of the EP&A Act requires a determining authority to ‘examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity’. This REF contains a detailed environmental impact assessment and addresses the provisions of Section 5.5(1) of the EP&A Act.
- Section 5.5(3) of the EP&A Act is not applicable as the site is not identified as a wilderness area (within the meaning of the *Wilderness Act 1987*).

- Section 5.6 of the EP&A Act relates to the requirement to address the provisions of the EP&A Regulation.
- Section 5.7 of the EP&A Act requires an Environmental Impact Statement (EIS) to be prepared if the proposed activity is ‘a prescribed activity, an activity of a prescribed kind or an activity that is likely to significantly affect the environment’. Urbis has assessed the proposal as detailed within this REF and is satisfied that an EIS is not required.

The definition of a public authority is defined under the EP&A Act as:

Public authority means:

- (a) A public or local authority constituted by or under an Act, or
- (b) A Public Service agency, or
- (c) A statutory body representing the Crown, or
- (d) A Public Service senior executive within the meaning of the Government Sector Employment Act 2013, or
- (e) A statutory State-owned corporation (and its subsidiaries) within the meaning of the State-Owned Corporations Act 1989, or
- (f) A chief executive officer of a corporation or subsidiary referred to in paragraph (e), or
- (g) A person prescribed by the regulations for the purposes of this definition.

WPCA is a public authority constituted by or under an Act and so a “public authority” as defined in section 1.4 of the EP&A Act. WPCA is both the Proponent and the determining authority for the proposal for the purposes of Division 5.1 of the EP&A Act.

As the REF is considering a proposed activity under Part 5 of the EP&A Act, the objects expressed in section 1.3 of the EP&A Act must also be considered. Accordingly, an assessment against the objects of the EP&A Act is provided in **Table 5**.

Table 5 Assessment against EP&A Act Objects

Object	Assessment
<i>(a) To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources.</i>	The Stage 2A Enabling Works will assist in delivering a new City Centre within the new Western Sydney Aerotropolis area which will generate 20,000 jobs and 10,000 homes in addition to a wide variety of community facilities and areas of open space. This will promote the social and economic welfare of the community whilst ensuring the proper management of the natural environment which has been considered in the design of the proposed activity.
<i>(b) To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.</i>	Bradfield City Centre is proposed to be a sustainable city that seeks to implement new energy and circular economic industries such as renewable energy generation and lithium battery storage in which the Stage 2A Enabling Works will help deliver for the future Bradfield City Centre.

<p>(c) <i>To promote the orderly and economic use and development of land.</i></p>	<p>The Stage 2A Enabling Works will help deliver a city centre that increases the economic use of the previously cleared agricultural land on the site.</p>
<p>(d) <i>To promote the delivery and maintenance of affordable housing.</i></p>	<p>The Western Sydney Aerotropolis will include a component of affordable housing. Whilst the proposed activity does not specifically seek approval to provide affordable housing it will assist in the future development of residential housing developments by readying development lots for future development.</p>
<p>(e) <i>To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.</i></p>	<p>This REF provides suitable mitigation measures in Section 9 which once implemented will protect the environment and reduce the impact of the development. Assessment of threatened and other species of native animals and plants is not required as the impacts associated with the Stage 2A works are restricted to prescribed certified lands. These areas have been previously assessed and approval granted under the Sydney Growth Centres Strategic Assessment Program Report which has been endorsed by the Commonwealth Environment Minister.</p>
<p>(f) <i>To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).</i></p>	<p>This REF provides suitable mitigation measures in Section 9 which once implemented will protect the built and cultural heritage of the site and reduce the impact of the development.</p>
<p>(g) <i>To promote good design and amenity of the built environment.</i></p>	<p>The Stage 2A Enabling Works will support the orderly development of Bradfield City Centre which has prioritised good design and amenity of the future built environment through a comprehensive master planning process. The proposed activity seeks to incorporate an extensive tree planting strategy to achieve urban tree canopy targets. Overall, a total of 622 new canopy trees are proposed to be planted. This will ensure a tree canopy cover at maturity of over 55%. The tree canopy strategy develops on established design and masterplan design principles including the Design with Country framework along with TAP endorsed draft BCC Master Plan documentation. This guidance documentation outlines the typical tree densities along with species listed from WSA DCP list to ensure an environmentally sustainable development is created.</p>
<p>(h) <i>To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants.</i></p>	<p>N/A – the proposed activity does not involve the construction of any buildings.</p>
<p>(i) <i>To promote the sharing of the responsibility for environmental</i></p>	<p>For the purposes of these works, WPCA is the Proponent and the determining authority under Part 5 of the EP&A</p>

planning and assessment between the different levels of government in the State.

Act. While the proposed activity does not require development consent, a public authority (being WPCA in the case of this matter) is required to assess the likely impacts of the proposal in accordance with the provisions of Part 5 of the EP&A Act. This approach shares the responsibility for assessment for the Bradfield City Centre with State and local government.

(j) To provide increased opportunity for community participation in environmental planning and assessment.

The proposed activity does not trigger any mandatory consultation requirements pursuant to the T&I SEPP. Notwithstanding, community feedback has been provided on the recently released Bradfield City Centre Masterplan, and WPCA will consult with adjoining landowners, relevant State agencies and LCC in relation to the Stage 2A Enabling Works during exhibition of this REF.

5.2.2 Environmental Planning and Assessment Regulation 2021 (NSW)

Section 171(1) of the *Environmental Planning and Assessment Regulation 2021 (EP&A Regulation)* requires the determining authority to take into account the environmental factors specified in the Division 5.1 Guidelines.

When considering the likely impact on an activity on the environment, the Division 5.1 Guidelines requires the proponent and determining authority to take into account the factors outlined in Table 1 in section 3 of the Division 5.1 Guidelines.

In accordance with section 171(4) of the EP&A Regulation, a REF must be published on the determining authority's website or the NSW Planning Portal only if:

- (a) *the activity has an estimated development cost of more than \$5 million, or*
- (b) *the activity requires an approval or permit as referred to in any of the following provisions before it may be carried out –*
 - (i) *Fisheries Management Act 1994, sections 144, 200, 205 or 219,*
 - (ii) *Heritage Act 1977, section 57,*
 - (iii) *National Parks and Wildlife Act 1974, section 90,*
 - (iv) *Protection of the Environment Operations Act 1997, sections 47–49 or 122, or*
- (c) *the determining authority considers that it is in the public interest to publish the review.*

As the proposed activity will have a estimated development cost (**EDC**) value of more than \$5 million, this REF is required to be published on WPCA's website or the NSW Planning Portal.

5.2.3 Biodiversity Conservation Act 2016 (NSW)

The purpose of the *Biodiversity Conservation Act 2016 (BC Act)* is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. The Act particularly relates to conservation of biodiversity.

Part 7 of the BC Act outlines biodiversity assessment and approval requirements and states that an activity under Part 5 of the EPA&A Act is to be regarded as an activity likely to significantly affect the environment if it is likely to significantly affect threatened species.

In this circumstance, an Environmental Impact Statement (**EIS**) is required and must include or be accompanied by a Species Impact Statement (**SIS**) or a Biodiversity Development Assessment Report (**BDAR**). However, an EIS is not required if the likely significant effect on threatened species is the only likely significant effect on the environment. In this situation, an SIS or BDAR is still required.

As identified in the Biodiversity Report Addendum (refer to **Appendix L**) prepared by Biosis to support the Stage 2A Enabling Works, a total of seven threatened flora species, 19 threatened fauna species and six threatened ecological communities (**TECs**) listed under the BC Act were identified as having a medium or greater likelihood of occurrence within the broader Bradfield City Centre site.

Usually, further assessment of impacts would be required for these entities in the form of a Test of Significance (**ToS**) in accordance with section 7.3 of the BC Act. However, as the Stage 2A Enabling Works is restricted to areas mapped as certified land under the Growth Centres Biodiversity Certification Order, further assessment of impacts to these entities (in the form of ToS) is not required.

The effect of biodiversity certification on activities proposed under Part 5 of the EP&A Act under Section 8.4 of the BC Act is as follows:

(4) Activities under Part 5 of the Planning Act An activity to which Part 5 of the EP&A Act applies which is carried out or proposed to be carried out on biodiversity certified land is taken, for the purposes of Part 5 of that Act, to be an activity that is not likely to significantly affect any threatened species or ecological community under this Act, or its habitat, in relation to that land.

(5) A determining authority under Part 5 of the EP&A Act is not required under that Part to consider the effect on biodiversity of an activity to the extent that it is carried out on biodiversity certified land.

(6) This section prevails This section has effect despite anything to the contrary in the EP&A Act or Part 7 of this Act.

Because of the existing biodiversity certification, further assessment of impacts to BC Act listed threatened species and communities within the certified area is not required, and a SIS or BDAR is therefore not required.

5.2.4 Fisheries Management Act 1994 (NSW)

The *Fisheries Management Act 1994 (FM Act)* provides for the protection and conservation of aquatic species and their habitat throughout NSW. Section 221ZX of the FM Act states that an activity under Part 5 of the EP&A Act is “likely to significantly affect the environment if it is likely to significantly affect threatened species, populations or ecological communities”.

Impacts to threatened species, populations and communities, and critical habitats listed under the FM Act must be assessed through the ToS in accordance with section 220ZZ. If the assessment determines a project is likely to result in a significant effect to threatened species, populations, or communities then a SIS must be prepared.

Key fish habitat

One of the key objectives of the FM Act is to conserve ‘key fish habitats’. Key fish habitats underpin

the approach applied by the NSW Department of Primary Industries (DPI) to ensure effort and resources are focused on habitats that are of a high priority to the conservation of fisheries. Key fish habitats are not defined in the FM Act, with their classification instead following the Policy and guidelines for fish habitat conservation and management (Fairfull 2013).

As noted in the Biodiversity Report Addendum (refer **Appendix L**), Moore Gully satisfies the criteria for being classified as key fish habitat under the guidelines and is also mapped as key fish habitat on the Fisheries NSW Spatial Data Portal. As such Moore Gully requires a 50-metre buffer key fish habitat buffer zone in accordance with the Policy and guidelines for fish habitat conservation and management. Any development occurring within this buffer zone will require approval from DPI Fisheries.

Threatened species

As detailed in the draft BCC Master Plan Biodiversity Strategy and Impact Assessment (BSIA) (Biosis 2023), no threatened species listed under the FM Act were identified as likely to occur within the broader Bradfield City Centre site. As such a test of significant effect on threatened species, populations or ecological communities, or their habitats, as outlined in section 220ZZ of the FM Act is not required. A SIS is therefore also not required.

Further, as the proposal is not likely to significantly affect threatened species, populations or ecological communities, the activity does not require concurrence of the Fisheries Agency Head, and an approval pursuant to sections 144, 201, 205 or 219 of the FM Act is not required.

5.2.5 Water Management Act 2000 (NSW)

The *Water Management Act 2000 (WM Act)* outlines approval requirements for activities at a specified location in, on or under waterfront land. Waterfront land includes the bed of any river, lake or estuary and all land within 40 metres of the highest bank of the river, lake or estuary.

The Act also outlines water access rights and approval and concurrence requirements for use of groundwater and surface water runoff.

Impacts to riparian zones are protected under the WM Act, guided by the Controlled activities – Guidelines for riparian corridors on waterfront land (DPIE 2022) fact sheet. Works within 40-metres of the top bank of mapped watercourses need to be consistent with the riparian corridor matrix which requires a Vegetated Riparian Zone (VRZ) to be preserved. The VRZ buffer applies to each side of the watercourse, measured from top of bank, and is based on the watercourse Strahler order.

One unnamed Strahler order 1 watercourse occurs in the eastern portion of the Stage 2A site. This watercourse has a VRZ buffer requirement of 10-metres. Moore Gully, a Strahler order 4 watercourse occurs to the south of the Stage 2A site and has a VRZ buffer requirement of 40 metres. The Stage 2A site tracks along the boundary of the Moore Gully VRZ buffer, however, the Stage 2A REF does not include any direct impacts to this area.

Notwithstanding the above, public authorities including WPCA are exempt from the need to acquire a controlled activity permit for work on waterfront land.

5.2.6 Rural Fires Act 1997 (NSW)

Under Section 63 of the *Rural Fires Act 1997*, public authorities must take all practicable steps to prevent the occurrence and spread of bush fires on or from land vested in or under its control or management.

Bushfire Advice (refer to **Appendix K**) prepared by Ecological to support the Stage 2A Enabling Works provides specific advice regarding the proposed construction of new roads and potential compliance of future development with bushfire related specifications for bushfire protection measures (**BPM**).

The advice states that the provision of all street landscaping and utilities (water, electricity, gas) must meet the Planning for Bushfire Protection (**PBP**) requirements and specifications for residential subdivision.

Future development is reliant on the provision of infrastructure, roads, and landscaping that can achieve compliance with PBP. The Stage 2A works must therefore be designed and implemented to be consistent with the standards for rural/residential subdivision development identified in PBP (Chapter 5).

Recommendations are provided to assist in design changes to ensure all perimeter roads are designed to meet the requirements of PBP. These mitigation measures are provided in this REF. In lieu of any design changes, alternative design specifications may be developed in conjunction with a bushfire consultant and RFS.

5.2.7 Contaminated Land Management Act 1997 (NSW)

The provisions of the *Contaminated Land Act 1997* (**CLM Act**) require that the nature and extent of any potential contamination be investigated and remediated.

The proposed activity includes bulk earthworks to construct the proposed new road network and installation of utilities. However, the land is not subject to any contamination orders and accordingly the proposal is satisfactory when considered against the CLM Act. Further, the site does not contain any class of Acid Sulfate Soils under the LEP.

5.2.8 Heritage Act 1977 (NSW)

The *Heritage Act 1977* is administered by the Heritage Office within the Office of Environment & Heritage and concerns protection and restoration and enhancement of State heritage items. There are no State heritage items listed at the site and the site is not subject to an interim heritage order. Therefore, the provisions of this Act do not apply.

5.2.9 Roads Act 1993 (NSW)

The objects of the *Roads Act 1993* are to, among other things, confer certain functions (in particular, the function of carrying out road work) on TfNSW and on other roads authorities, and to provide for the distribution of the functions conferred by this Act between TfNSW and other roads authorities.

The proposed activity relates to the development of new roads, however the REF does not seek approval for the connection of any new roads to a classified road. The dedication of these roads will be undertaken via a separate application. Therefore, approval of TfNSW is not required under Section 138 of the Roads Act.

5.2.10 National Parks and Wildlife Act 1974 (NSW)

The aim of the *National Parks and Wildlife Act 1974* (**NPW Act**) is to ensure the conservation of the

natural environment including any objects, places or features identified as having high cultural value or significance.

Section 90 of the NPW Act facilitates the issuance of Aboriginal Heritage Impact Permits (**AHIP**) in the instance there are any potential aboriginal heritage impacts. As per the Aboriginal Cultural Heritage Assessment Report (**ACHAR**) Addendum (refer to **Appendix N**) seven (7) AHIMS sites are located within the boundary of Stage 2A works.

Where impacts to any of the identified Aboriginal sites cannot be avoided, an approved AHIP is required to authorise impacts. On 28 March 2024, the NSW DCCEEW issued an approved AHIP in respect to the 7 sites.

5.2.11 Coastal Management Act 2016 (NSW)

The primary aims of the *Coastal Management Act 2016 Act* are to manage the coastal environment of NSW in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State and to protect and enhance natural coastal processes and coastal environmental values including natural character, scenic value, biological diversity and ecosystem integrity and resilience.

The site is not within an identified Coastal Zone or Coastal Area and therefore the provisions of this Act do not apply.

5.2.12 Protection of the Environment Operations Act 1997 (NSW)

The primary aim of the *Protection of the Environment Operations Act 1997 Act (POEO Act)* is to protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development, and to reduce risks to human health and prevent the degradation of the environment by the use of mechanisms.

The proposed activity relates to enabling works including a new road network to facilitate for the delivery of Bradfield City Centre. Mitigation measures are provided in this REF to ensure that construction activities will not cause a pollution event that harms or threatens harm to the environment.

A Construction Environmental Management Plan (**CEMP**) has been prepared by SMEC (refer to **Appendix I**) to establish the relevant management measures which, once implemented, will ensure the proposed activity will not have a significant environmental impact on the surrounding area.

A licence under sections 47, 48, 49 or 122 of the POEO Act is not required.

5.3 State Environmental Planning Policies

5.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) aims to facilitate the delivery of infrastructure across NSW by identifying whether certain types of infrastructure require consent, can be carried out without consent or are exempt development.

Activities to be carried out under Part 5 of the EP&A Act by WPCA as a public authority are identified in Chapter 2 of the T&I SEPP. The following table identifies the range of activities proposed to be carried out under this REF as part of the Stage 2A Enabling Works.

Table 6 Assessment against T&I SEPP

Consideration	Response	Satisfied
Division 5 - Electricity Transmission or Distribution		
2.43 Definitions		
<i>electricity transmission or distribution network includes the following components –</i>		
<i>(a) above or below ground electricity transmission or distribution lines (including related bridges, cables, conductors, conduits, poles, towers, trenches, tunnels, access structures, access tracks and ventilation structures) and telecommunication facilities that are related to the functioning of the network,</i>		
<i>(b) above or below ground electricity switching stations or electricity substations, feeder pillars or transformer housing, substation yards or substation buildings,</i>		
<i>(c) systems for electricity storage associated with a component specified in paragraphs (a) and (b).</i>		
Section 2.44 – Development permitted without consent		
<i>(1) Development for the purpose of an electricity transmission or distribution network may be carried out by or on behalf of an electricity supply authority or public authority without consent on any land. However, such development may be carried out without consent on land reserved under the National Parks and Wildlife Act 1974 only if the development –</i>	WPCA is a public authority. The proposed activity includes the provision of electrical services network and reticulation infrastructure.	Yes
<i>(a) is authorised by or under that Act, or</i>	The site is not land reserved or acquired under the National Parks and Wildlife Act.	
<i>(b) is, or is the subject of, an existing interest within the meaning of section 39 of that Act, or</i>		
<i>(c) is carried out on land to which that Act applies over which an easement has been granted and is not contrary to the terms or nature of the easement, or</i>		
<i>(d) is an electricity work to which section 53 of the Electricity Supply Act 1995 applies.</i>		

<p>(2) <i>In this section, a reference to development for the purpose of an electricity transmission or distribution network includes a reference to development for any of the following purposes if the development is in connection with such a network —</i></p> <p><i>(a) construction works (whether or not in a heritage conservation area), including —</i></p> <p><i>(i) laying and installation of cables and cable pits, co-location of cabling and erection of ventilation and access structures, bridges and tunnel adits, and construction of a tunnel or conduit for an underground cable, and</i></p> <p><i>(ii) alteration, demolition or relocation of a local heritage item, and</i></p> <p><i>(iii) alteration or relocation of a State heritage item, and</i></p> <p><i>(iv) installation of overhead wires and associated component parts, including support structures, and</i></p> <p><i>(v) construction of access tunnels or access tracks,</i></p> <p><i>(b) emergency works or routine maintenance works,</i></p> <p><i>(c) environmental management works,</i></p> <p><i>(d) establishment of a new substation or an increase in the area of existing substation yards or the installation of equipment, plant or structures in existing substation yards or substation buildings,</i></p> <p><i>(e) above or below ground co-location of telecommunications cabling and associated structures,</i></p> <p><i>(f) an electricity generating unit to provide temporary support to the network, but only if —</i></p> <p><i>(i) the combined capacity of all units at the premises where the unit is located, or is intended to be located, does not exceed 5 megawatts, and</i></p>	<p>The proposed activity includes the installation of electrical conduit pathways and telecommunications cabling.</p>	<p>Yes</p>
---	---	------------

(ii) none of the units is operated, or is intended to be operated, for more than 200 hours in any 12-month period.

Division 17 – Roads and Traffic

Section 2.109 – Development permitted without consent – general

<p>(1) Development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land. However, such development may be carried out without consent on land reserved under the National Parks and Wildlife Act 1974 only if the development –</p>	<p>The proposed activity includes the construction of new roads and road infrastructure.</p> <p>The site is not land reserved or acquired under the National Parks and Wildlife Act.</p>	<p>Yes</p>
---	--	------------

(a) is authorised by or under the National Parks and Wildlife Act 1974, or

(b) is, or is the subject of, an existing interest within the meaning of section 39 of that Act, or

(c) is on land to which that Act applies over which an easement has been granted and is not contrary to the terms or nature of the easement.

<p>(2) Development for any of the following purposes may be carried out by or on behalf of a public authority without consent on land in a prescribed zone –</p>	<p>Not applicable. The proposed activity does not include a bus depot or road maintenance depot.</p>	<p>N/A</p>
--	--	------------

(a) bus depots,

(b) permanent road maintenance depots and associated infrastructure (such as garages, sheds, tool houses, storage yards, training facilities and workers’ amenities).

<p>(2A) The following development for the purposes of bus depots may be carried out by or on behalf of a public authority without consent on land within the boundaries of an existing bus depot –</p>	<p>Not applicable. The proposed activity does not include a bus depot or road maintenance depot.</p>	<p>N/A</p>
--	--	------------

(a) the erection of a building that is –

- (i) no more than 12.5m high, and
- (ii) not located within 5m of a property boundary for a lot in a residential or conservation zone,
- (b) the demolition of a building.

(3) In this section and section 2.112, a reference to development for the purpose of road infrastructure facilities includes a reference to development for any of the following purposes if the development is in connection with a road or road infrastructure facilities –

<p>(a) construction works (whether or not in a heritage conservation area), including –</p> <ul style="list-style-type: none"> (i) temporary buildings or facilities for the management of construction, if they are in or adjacent to a road corridor, and (ii) creation of embankments, and (iii) extraction of extractive materials and stockpiling of those materials, if – <p>(A) the extraction and stockpiling are ancillary to road construction, or</p> <p>(B) the materials are used solely for road construction and the extraction and stockpiling take place in or adjacent to a road corridor, and</p> <ul style="list-style-type: none"> (iv) temporary crushing or concrete batching plants, if they are used solely for road construction and are on or adjacent to a road corridor, and (v) temporary roads that are used solely during road construction, 	<p>The proposed activity includes the construction of new roads which will require the extraction and stockpiling of materials.</p> <p>Temporary facilities will also be required to be erected to carry out the construction works on the site for the purposes of new roads.</p>	<p>Yes</p>
---	--	------------

<p>(b) emergency works or routine maintenance works,</p>	<p>The proposed activity does not include emergency works or routine maintenance works.</p>	<p>N/A</p>
--	---	------------

<p>(c) alterations or additions to an existing road (such as widening, narrowing, duplication or</p>	<p>The proposed activity involves the construction of a new road network.</p>	<p>Yes</p>
--	---	------------

reconstruction of lanes, changing the alignment or strengthening of the road), Alterations and additions to existing roads are not proposed.

(d) environmental management works, if the works are in or adjacent to a road corridor.	The proposed activity does not include environmental management works adjacent to a road corridor.	N/A
---	--	-----

Division 20 - Stormwater Management Systems

2.136 Definition

In this Division –

stormwater management system means –

(a) *works for the collection, detention, harvesting, distribution or discharge of stormwater (such as channels, aqueducts, pipes, drainage works, embankments, detention basins and pumping stations), and*

(b) *stormwater quality control systems (such as waste entrapment facilities, artificial wetlands, sediment ponds and riparian management), and*

(c) *stormwater reuse schemes.*

2.137 Development permitted without consent

(1) <i>Development for the purpose of stormwater management systems may be carried out by or on behalf of a public authority without consent on any land.</i>	The proposed activity includes the construction of a new stormwater management system including a new catchment, temporary detention basins and road drainage works. The Stage 2A works under this REF does not cover the regional basins to which the street stormwater network will drain.	Yes
---	--	-----

2) <i>A reference in this section to development for the purpose of stormwater management systems includes a reference to development for any of the following purposes if the development is in connection with a stormwater management system –</i> (a) <i>construction works,</i> (b) <i>routine maintenance works, including maintenance dredging to remove sediment build-up in a stormwater canal or at exit points into natural waterways that affects the</i>	The proposed activity includes the construction of a new stormwater management system including a temporary detention basins and road drainage works.	Yes
---	---	-----

efficiency of the stormwater management system,

(c) environmental management works,

(d) buildings, including buildings containing amenities for staff, that have a height of not more than 12m above ground level (existing).

Division 21 - Telecommunications and other communication facilities

2.140 Definitions

telecommunications facility means –

(a) any part of the infrastructure of a telecommunications network, or

(b) any line, cable, optical fibre, fibre access node, interconnect point, equipment, apparatus, tower, mast, antenna, dish, tunnel, duct, hole, pit, pole or other structure in connection with a telecommunications network, or

(c) any other thing used in or in connection with a telecommunications network.

telecommunications network means a system, or series of systems, that carries, or is capable of carrying, communications by means of guided or unguided electromagnetic energy, or both.

Section 2.141 Development permitted without consent

(1) Development for the purposes of telecommunications facilities (including radio facilities) may be carried out by a public authority without consent on any land.

The proposed activity includes the installation of new telecommunication facilities.

Yes

2) Before a public authority undertakes the development of a tower or mast under this section, the public authority must –

N/A the proposed activity does not involve development of a tower or mast.

Noted

(a) give written notice of the authority’s intention to carry out the development to –

(i) if the authority is not the council of the area in which the development will be carried out – the council of the area, and

(ii) the occupiers of land adjoining the proposed development, and

(b) take into consideration any response to the notice that is received

within 21 days after the notice is given, and

(c) take into consideration any guidelines concerning site selection, design, construction or operating principles for telecommunications facilities that are issued by the Planning Secretary for the purposes of this section and published in the Gazette.

(2A) Subsection (2)(a)(ii) does not apply if the proposed development will be located more than 2km from the boundary of the adjoining land.

N/A – see above comment.

N/A

(3) Development for the purpose of co-locating telecommunications network cables on electricity or cable poles or with underground electricity or cable facilities, other than subscriber connections, may be carried out by any person without consent on any land.

The proposed activity includes the provision of telecommunications network cables.

Yes

(4) To avoid doubt, development does not cease to be development permitted under subsection (3) if a cable is not co-located on a pole for safety reasons.

Noted.

Noted.

(5) Development for the purpose of subscriber connections, other than development of a kind specified in section 2.144, may be carried out by any person without consent on any land unless the subscriber’s premises, or any land traversed by the connection, is a State or local heritage item or is located in a heritage conservation area.

Noted.

Noted.

(6) Development for the purposes of an underground telecommunications network cable, other than subscriber connections, may be carried out by any person without consent on any land if the existing electricity or

The proposed activity includes the installation of underground telecommunications network cables.

Yes

telecommunications network cable facilities are located underground.

<p>(7) Before carrying out development to which subsection (6) applies, a person must –</p> <p>(a) give written notice of the intention to carry out the development to the council for the area in which the land is located, and</p> <p>(b) take into consideration any response to the notice that is received within 21 days after the notice is given.</p>	<p>Noted. WPCA must provide written notice of the proposal to LCC.</p>	<p>WPCA notified LCC on 29 February 2024. A response to comments received from Council is provided at Appendix Q.</p>
<p>(8) Development for the purposes of a new or existing fibre access node (including the extension of the area of an existing fibre access node or the installation of equipment, plant or structures in an existing fibre access node or an associated building) may be carried out by any person without consent on any land.</p>	<p>The proposed activity includes the installation of a new fibre access node.</p>	<p>Yes</p>
<p>(9) Before carrying out development to which subsection (8) applies that is not a project to which Part 3A of the Act applies or State significant infrastructure, a person must –</p> <p>(a) give written notice of the intention to carry out the development to the council for the area in which the land is located and to the occupiers of adjoining and adjacent land, and</p> <p>(b) take into consideration any response to the notice that is received within 21 days after the notice is given.</p>	<p>Noted. WPCA must provide written notice of the proposal to Liverpool City Council and to the adjoining landowners.</p>	<p>WPCA notified LCC and adjoining landowners on 29 February 2024. A response to the notice was received from LCC. No responses were received from the occupiers of adjoining and adjacent land.</p>

As demonstrated above, all works proposed are captured as development ‘permitted without consent’ pursuant to the above controls of the T&I SEPP, and therefore do not require development consent.

5.3.2 State Environmental Planning Policy (Precincts – Western Parkland City) 2021

State Environmental Planning Policy (Precincts – Western Parkland City) 2021 (WPC SEPP) is the

primary environmental planning instrument applying to the site.

However, as the proposal is to be carried out under Part 5 of the EP&A Act, the provisions of the T&I SEPP supersede any provisions contained within the WPC SEPP. Notwithstanding, some provisions of the WPC SEPP are relevant to the REF in the sense that they refer to matters that are of general importance to the environmental assessment of the proposal.

An assessment against the relevant provisions of the WPC SEPP is provided in **Table 7**.

Table 7 Assessment against relevant provisions of WPC SEPP

Section	Response	Satisfied
Chapter 4 Western Sydney Aerotropolis		
Land Use Zoning and Objectives	<p>As shown in Figure 5, the Stage 2A site is predominantly zoned Mixed Use (MU1). A small portion of the site is zoned Enterprise Zone (ENT) and Environment and Recreation Zone (ENZ).</p> <p>The purpose of the proposed activity is to deliver enabling works which will ready the land for future mixed-use development which will be permitted with consent in the MU1 and ENT zones.</p> <p>As shown in Figure 22, the Stage 2A REF does not include any land identified on the WPC SEPP Land Acquisition Map.</p>	Yes
Part 4.1 Preliminary		
Section 4.5 Application of Statement Environmental Planning Policy (Infrastructure) 2007		
(1) The Infrastructure SEPP applies to land shown on the Land Application Map, subject to the modifications set out in this section.	<p>As shown in Figure 20, the site is located on land shown on Land Application Map, and there are no modifications or exclusions listed in Part 4.5 of the WPC SEPP which has any effect on the ability to undertake the works proposed as development permitted without consent. Therefore, the Infrastructure SEPP (now the T&I SEPP) can be utilised, and the proposed works can be undertaken as development without consent.</p>	Yes
(2) Part 3, Division 4 of the Infrastructure SEPP does not apply to land in the 3-kilometre zone on the Wind Turbines Map under section 4.20 of this Chapter.	Not applicable. The proposed activity does not include electricity generating works or solar energy systems.	N/A

(3) Development specified in clause 65(3)(a)(iv) of the Infrastructure SEPP may be carried out by or on behalf of a council under that clause only if the lighting will not adversely affect the safe operation of the Airport.	Not applicable. The proposed activity does not include lighting within a public reserve.	N/A
---	--	-----

(4) Part 3, Division 18A of the Infrastructure SEPP does not apply to land shown on the Land Application Map.	Not applicable. The proposed activity does not include shooting ranges.	N/A
---	---	-----

(5) Development specified in clause 116A of the Infrastructure SEPP is complying development only if it is carried out by or on behalf of a public authority or carrier.	Not applicable. The proposed activity does not relate to complying development.	N/A
--	---	-----

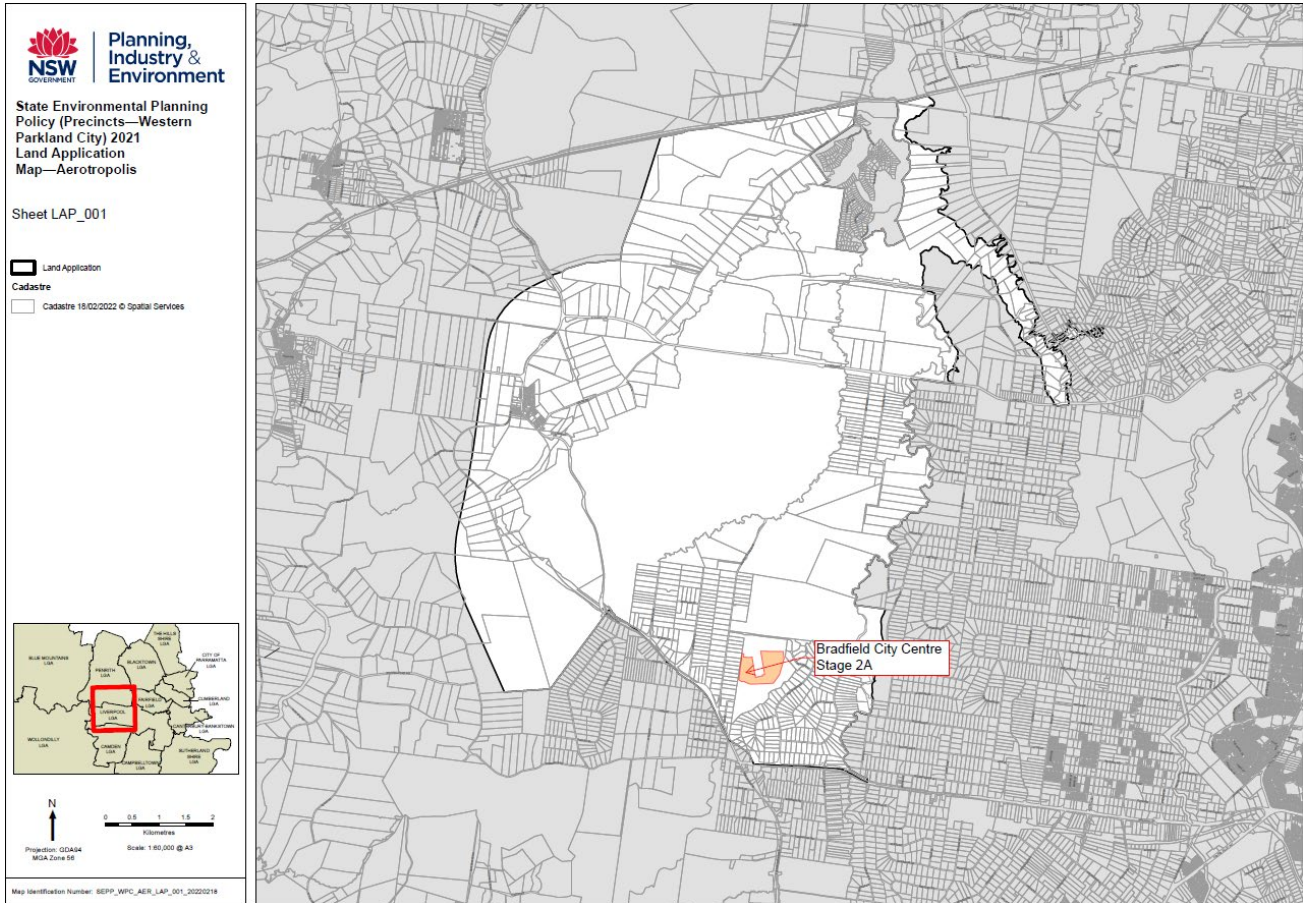
Part 4.3 Development controls – Airport safeguards

4.17 Aircraft Noise	As shown in Figure 21 , the Stage 2A site is not impacted by the future Western Sydney International Airport Aircraft Noise Levels. The site is located 1km from the 20 - 25 Australian noise exposure forecast (ANEF) where restrictions start to be applied, therefore is suitable for all types of land uses.	N/A
---------------------	--	-----

4.19 Wildlife Buffer Zone	Section 4.19 of the SEPP does not apply to the REF as it relates to development requiring consent. Notwithstanding, as the Stage 2A REF site is located within the wildlife buffer zone and includes the development of water storage facilities, a wildlife hazard has been considered in the environmental assessment. It should be noted that the proposed water storage facilities (i.e., stormwater basins) will be temporary in nature and only operational for a maximum of 12 months until such time as additional stormwater control measures are put in place along Moore Gully, which are subject to separate project approvals. The Western Sydney International Airport is due to be operational in 2026. By this time these temporary stormwater basins would have been decommissioned so there will be no increased wildlife hazards associated with these temporary water storage facilities. Mitigation	N/A
---------------------------	---	-----

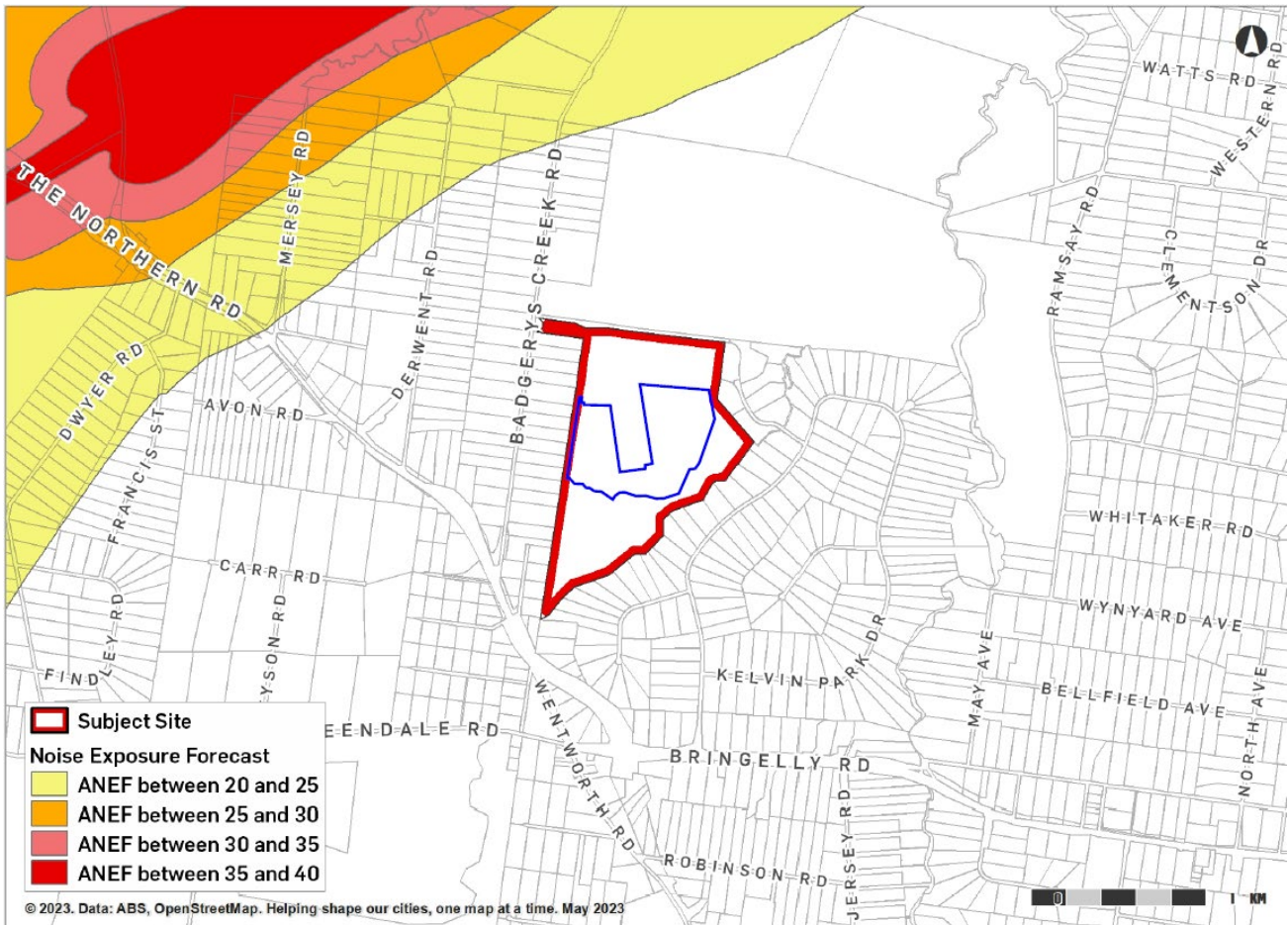
	measures are included in Section 9 to deter wildlife such as exclusion netting.	
4.20 Wind Turbine Buffer Zone	The site is located partially within the 3-30km WTBZ. The proposed activity does not include the construction and operation of wind turbines.	N/A
4.22 Airspace Operations	The Stage 2A site is subject to a 125.5m AHD maximum building height to comply with the Obstacle Limitation Surface (OLS). The proposed activity does not propose any built form that has a height greater than 125.5 m AHD.	N/A
Part 4.4 Development controls – General		
4.24 Flood planning	As shown in Figure 6 , the Stage 2A site is not mapped as being within the flood planning area.	N/A
4.25 Preservation of trees and vegetation in Environment and Recreation Zone and Cumberland Plain	Section 4.25 (Preservation of trees and vegetation) applies to land in the ENZ zone as well as land shown as High Biodiversity Value Area. No such lands occur within the Stage 2A subject site and as such this section does not apply.	N/A
4.26 Heritage Conservation	As shown in Figure 9, the Stage 2A site does not contain any heritage items and is not within a heritage conservation area.	N/A
4.27 Transport Corridors	As per the transport corridor maps, the extension of Fifteenth Avenue traverses the northern end of the broader BCC site whilst the Metro line which runs through the site. Section 4.27 of the SEPP does not apply to the REF as it relates to development requiring consent. Notwithstanding, it should be noted that the Stage 2A works do not impact on any identified transport corridors and the works have been designed to consider this interface to ensure road levels are set in accordance with adjoining development to be carried out by others. Further, as the proposed activity is within 400 metres of the future Metro station identified on the corridor map, consultation has been carried out with Sydney Metro.	N/A

Figure 20 WPC SEPP Land Application Map



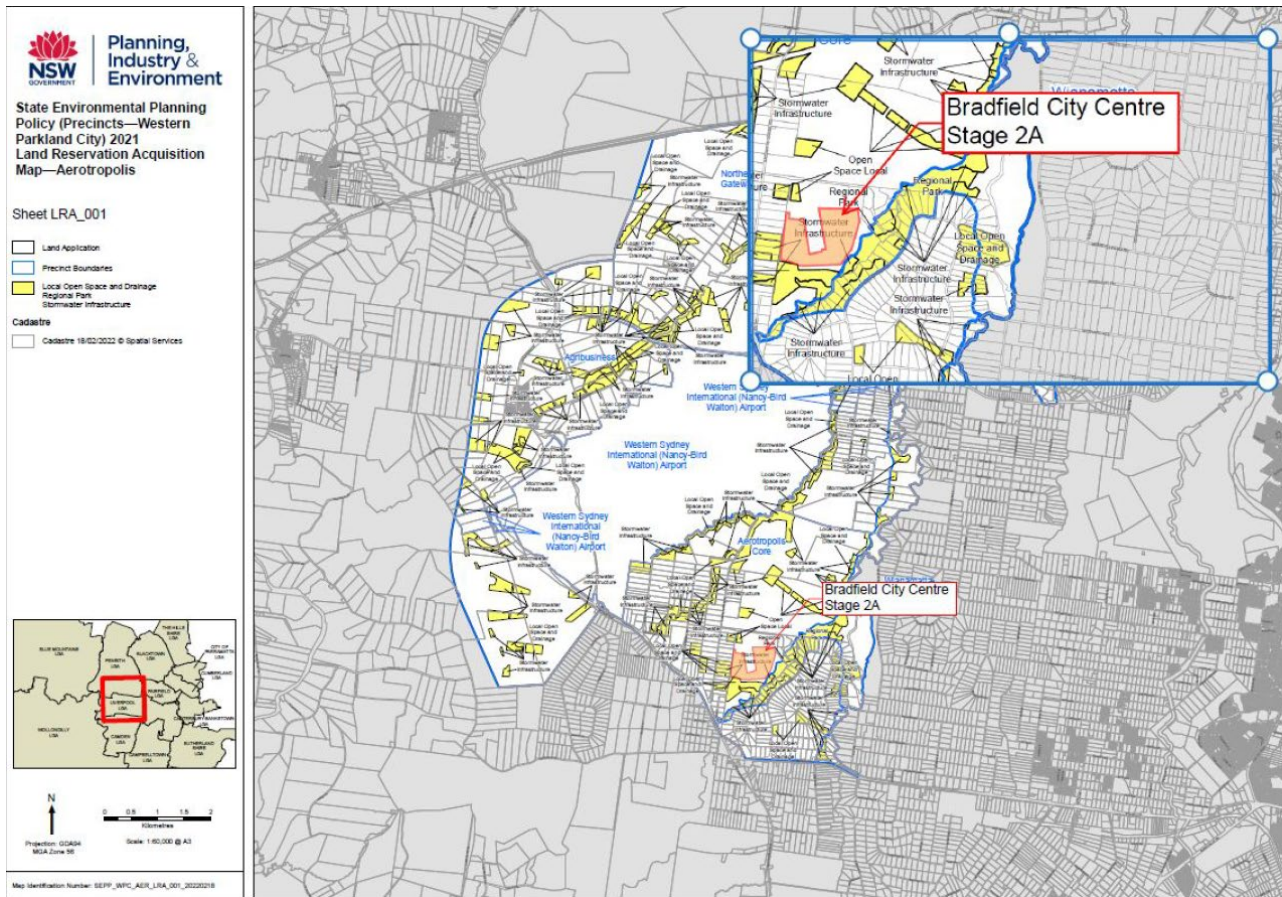
Source: NSW Legislation, 2024

Figure 21 ANEF Map



Source: Urbis GIS, 2023

Figure 22 Land Acquisition Map



Source: WPCA

5.3.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021

State Environmental Planning Policy (Biodiversity and Conservation) 2021 (Biodiversity and Conservation SEPP) aims to protect and conserve the natural environment.

Chapter 4 Koala Habitat Protection of the Biodiversity and Conservation SEPP aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.

The Stage 2A site is located within the Liverpool LGA. LCC is listed under Schedule 2, Chapter 4 of the Biodiversity and Conservation SEPP, and is therefore subject to the requirements laid out by the policy. Specifically, this means before a consent authority may grant consent to a development application (DA), it must satisfy itself whether or not the land is potential Koala habitat and core Koala habitat.

However, under Section 4.4 of the Biodiversity and Conservation SEPP, Chapter 4 of the SEPP does apply to land on which biodiversity certification has been conferred and is in force. As the subject site occurs on land that is biodiversity certified, and the proposed works are to be undertaken under Part 5 of the Act, further consideration of this SEPP is not required.

5.3.4 State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) aims to streamline the development assessment process in relation to resilience and natural hazard risk.

Chapter 4 of the SEPP provides a state-wide planning approach for the remediation of contaminated land and aims to promote the remediation of contaminated land to reduce the risk of harm to human health or the environment. Section 4.6(1) requires the consent authority to consider whether land is contaminated prior to consent of an application. Chapter 4 only applies to development applications under Part 4 of the EP&A Act and therefore this SEPP does not apply.

5.4 Strategic Planning Policies

Section 171(2)(q) of the EP&A Regulation and the Guidelines for Division 5.1 assessments (June 2022) made pursuant to section 170 of the EP&A Regulation, require applicable local strategic planning statements, regional strategic plans or district strategic plans made under Division 3.1 of the EP&A Act to be taken into account.

This section of the REF describes the proposed activities compliance with relevant strategic planning policies as outlined in **Table 8**.

Table 8 Assessment against Strategic Planning Strategies

Strategy	Comment
Premiers Priorities	<p>The NSW Premier's Priorities comprise a set of 14 priorities that aim to deliver on key policy matters, including: a strong economy, highest quality education and well-connected communities with quality local environments.</p> <p>The proposed activity is consistent with these priorities as it will assist in the delivery of the Bradfield City Centre which will provide:</p> <ul style="list-style-type: none"> • A vibrant City Centre with a thriving nighttime economy. • 36 ha of open space, waterways and playgrounds. • 10,000 new homes. • 20,000 jobs to drive economic growth in the region.
Liverpool Local Strategic Planning Statement	<p>The Liverpool Local Strategic Planning Statement (LSPS) sets out the 20-year vision for land use in the Liverpool Local Government Area. The proposed activity is consistent with the following priorities identified in the LSPS:</p> <ul style="list-style-type: none"> • Planning Priority 3 – Accessible and connected suburbs. • Planning Priority 6 – High quality, plentiful and accessible community facilities, open space and infrastructure aligned with growth. <p>The proposed activity will assist in delivering the required services and infrastructure to support the development of the Bradfield City Centre.</p>

Greater Sydney
Region Plan: A
Metropolis of Three
Cities

Greater Sydney Region Plan: A Metropolis of Three Cities – connecting people (the **Region Plan**) provides the overarching strategic plan for growth and change in Sydney. It is a 20-year plan with a 40-year vision that seeks to transform Greater Sydney into a metropolis of three cities - the Western Parkland City, Central River City and Eastern Harbour City. It identifies key challenges facing Sydney including increasing the population to eight million by 2056, 817,000 new jobs and a requirement of 725,000 new homes by 2036. The Plan includes objectives and strategies for infrastructure and collaboration, liveability, productivity and sustainability.

A Metropolis of Three Cities is built on a vision of three cities where most residents live within 30 minutes of their jobs, education, health facilities, services and great places. It seeks to transform Greater Sydney into a metropolis of three cities, including the WPC SEPP, the Central River City, and the Eastern Harbour City. The key 10 directions for a Greater Sydney include:

- A city supported by infrastructure; a collaborative city; a city for people; housing the city; a city of great places; a well-connected city; job and skills for the city; a city in its landscape; an efficient city; and a resilient city.
- Public transport connections to the 3 cities. Sydney City, Parramatta City and Western Sydney International Airport.
- Promoting active transport.
- Create a well-connected social infrastructure network to achieve a 30-minute city with a dense, walkable city centre focusing on access to and variety of open green space.
- Implement the framework of infrastructure and collaboration, liveability, productivity, and sustainability to guide the delivery of the vision.

The proposed activity will deliver a new road network and the essential infrastructure, and services required to support future development within Bradfield City Centre as envisaged in the draft Master Plan.

The draft Master Plan, once implemented, has been designed to meet these objectives into the planning and delivery of development at Bradfield.

Greater Sydney
2056: Western City
District Plan

Our Greater Sydney 2056: Western City District Plan – connecting communities (the **District Plan**) is a 20-year plan to manage growth in the context of economic, social and environmental matters to implement the objectives of the Greater Sydney Region Plan. The intent of the District Plan is to inform local strategic planning statements and local environmental plans, guiding the planning and support for growth and change across the district.

The District Plan contains strategic directions, planning priorities and actions that seek to implement the objectives and strategies within the Region Plan at the district-level. It identifies the key centres, economic and employment locations, land release and urban renewal areas and existing and future transport infrastructure to deliver growth aspirations.

The proposed activity is consistent with the District Plan in that it will:

- Facilitate to create the opportunity for a Western Economic Corridor.

- Identify Planning Priorities for metro access, green space, density, shading, economic hub, to achieve a liveable, productive and sustainable future for the district
- Implement relevant objectives, strategies, and actions from the 20-year plan to achieve the 40-year vision.

Future Transport Strategy 2056

This Strategy sets the 40-year vision, directions and principles for mobility and transport system across NSW with a focus on people and how to create and maintain world-class, safe, efficient, and reliable transport systems.

The Stage 2A Enabling Works will help to deliver a new road network in accordance with the Precinct Plan and the draft BCC Master Plan which aims to create a new city centre which aligns with the above objectives.

5.5 Other Statutory Planning Considerations

The following planning documents have also been considered in preparing the REF:

- Western Sydney Aerotropolis Precinct Plan 2022
- Western Sydney Aerotropolis Development Control Plan 2022
- Any Master Plan approved under Section 4.41 of the WPC SEPP.

5.5.1 Western Sydney Aerotropolis Precinct Plan 2022

The Western Sydney Aerotropolis Precinct Plan (the **Precinct Plan**) identifies the site is located within the Aerotropolis Core Precinct. The Precinct Plan is primarily used to assess development applications on land to which it applies in the Aerotropolis and provides further details on expectations for development in the Aerotropolis.

The provisions of this Precinct Plan also include objectives and requirements which must be considered in the assessment of this REF. As such **Table 9** outlines the proposed activity's consistency with the relevant key controls provided in the Precinct Plan.

Table 9 Assessment against relevant Sections of the Precinct Plan

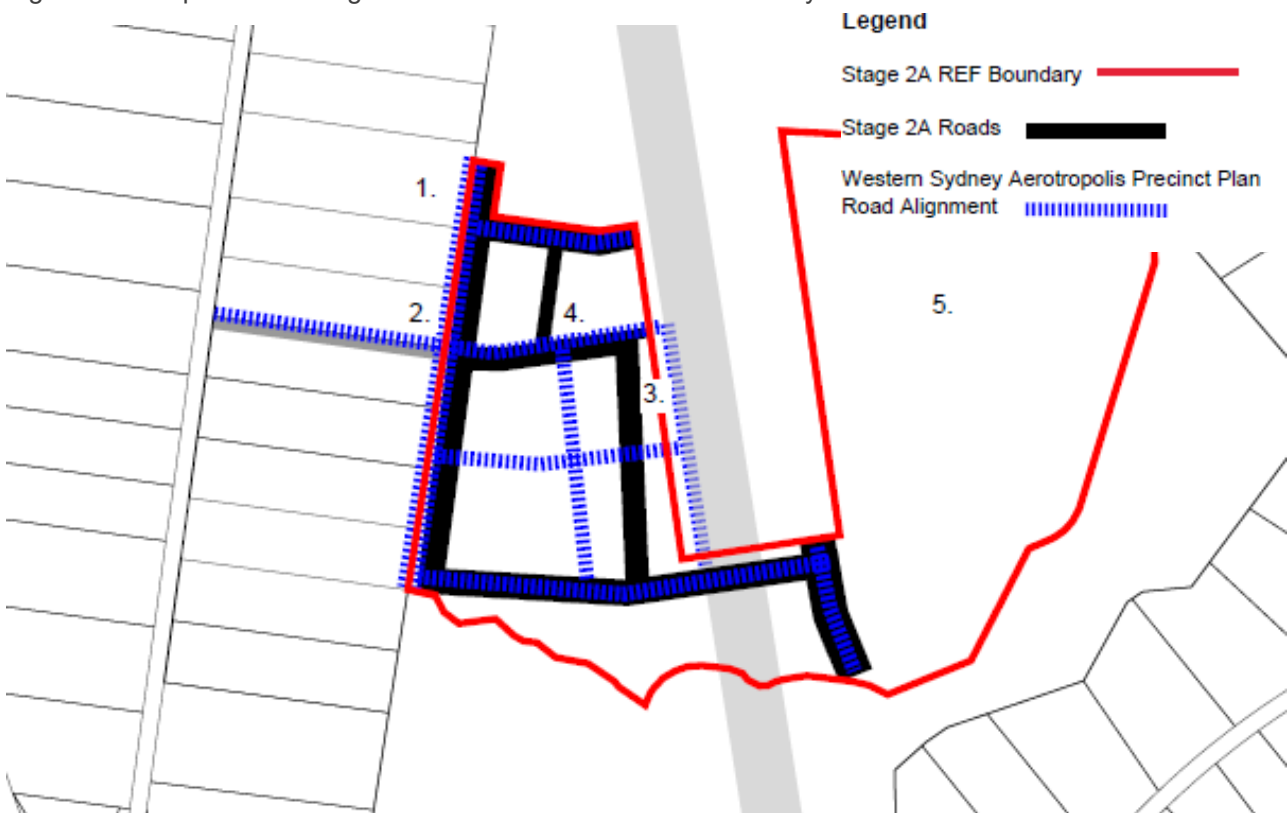
Section	Response	Satisfied
Section 2.2 Aerotropolis Core Precinct Objectives	<p>The proposed activity will help deliver the Bradfield City Centre which will support the operation of the Western Sydney International Airport.</p> <p>The proposed Stage 2A Enabling Works activity includes the delivery of roads and service authorities' infrastructure to prepare a section of the Bradfield City Centre for future development and to ensure that Bradfield City Centre can be delivered in line with the scheduled opening of the future Western Sydney International Airport in December 2026. The Stage 2A Enabling Works are entirely consistent with the overarching draft BCC Master Plan, including the road alignments.</p>	Yes

Section 3.1 Infrastructure Delivery	<p>The Stage 2A Enabling Works covers a site area of approximately 38 hectares of land within the broader Bradfield City Centre site, and involves delivery of new master planned roads, streetscape works, civil works and public utilities to be delivered in a staged construction scheduled to be completed by 2026.</p> <p>The Stage 2A Enabling Works are focused on delivering fully serviced development blocks. This work includes bulk earthworks, civil road works, grading and levels for the site, all the public utilities, open space and street landscaping. Completion of these works will enable fully serviced super lots to be developed by WPCA or through private sector partners that will contribute to and support the early activation and place making for the Bradfield City Centre.</p>	Yes
Section 3.2 Development Sequencing	<p>The site is located within the first priority area of Bradfield City Centre and therefore is being delivered in line with the proposed development sequencing of the draft Master Plan.</p>	Yes
Section 4.1 Proposed Land Use and Structure Plan	<p>The proposed enabling works will assist in facilitating for the delivery of the proposed land uses that are outlined in the proposed Land Use and Structure Plan. As shown in Figure 23, the proposed road layout is largely consistent with the structure plan provided in the Precinct Plan.</p>	Yes
Section 4.2 Subdivision and Block Structure	<p>Completion of the Stage 2A works will enable fully serviced super lots to be developed by WPCA or through private partners that will contribute to and support the early activation and place making for the Bradfield City Centre.</p>	Yes
Section 4.3 Aboriginal Culture and Heritage	<p>The proposed activity will be carried out in a manner which seeks to protect areas of Aboriginal heritage. A total of seven (7) AHIMS sites are located within the boundary of Stage 2A site, and as such, where impacts to any of the identified Aboriginal sites cannot be avoided, an approved Aboriginal Heritage Impact Permit (AHIP) will be required to authorise impacts. On 28 March 2024, the NSW DCCEEW issued an approved AHIP in respect to the 7 sites.</p>	Yes
Section 4.4 Non-Aboriginal and European Heritage	<p>There are no heritage items identified on the site.</p>	N/A
Section 4.5 Blue-Green Infrastructure Framework	<p>The proposed enabling works will assist in facilitating for the delivery for the proposed green-blue infrastructure framework that is outlined in the draft BCC Master Plan. As shown in Figure 24, the Stage 2A REF does not conflict with any of the planned infrastructure as shown in Blue-Green Infrastructure Framework Map. Further as shown in Figure 25, the Stage 2A REF does not conflict with any of the planned infrastructure as provided in Total Water Cycle Management Map.</p>	Yes

Section 4.6 Movement Network	The proposed enabling works will assist in facilitating for the delivery of the movement network that is outlined in the TAP endorsed draft BCC Master Plan.	Yes
Section 4.7 Sustainability and Resilience	The proposed enabling works will assist in facilitating for the delivery of a sustainable and resilient City centre that aligns with the requirements of the TAP endorsed draft BCC Master Plan.	Yes
Section 5.1 Hierarchy of Centres	The site is located within a metropolitan centre. The proposed enabling works will assist in facilitating the delivery of the wider Bradfield City Centre.	Yes

The proposed road layout will be undertaken generally in accordance with the requirements of the Precinct Plan as shown in **Figure 23**.

Figure 23 Comparison of Stage 2A REF with Precinct Plan Road Layout



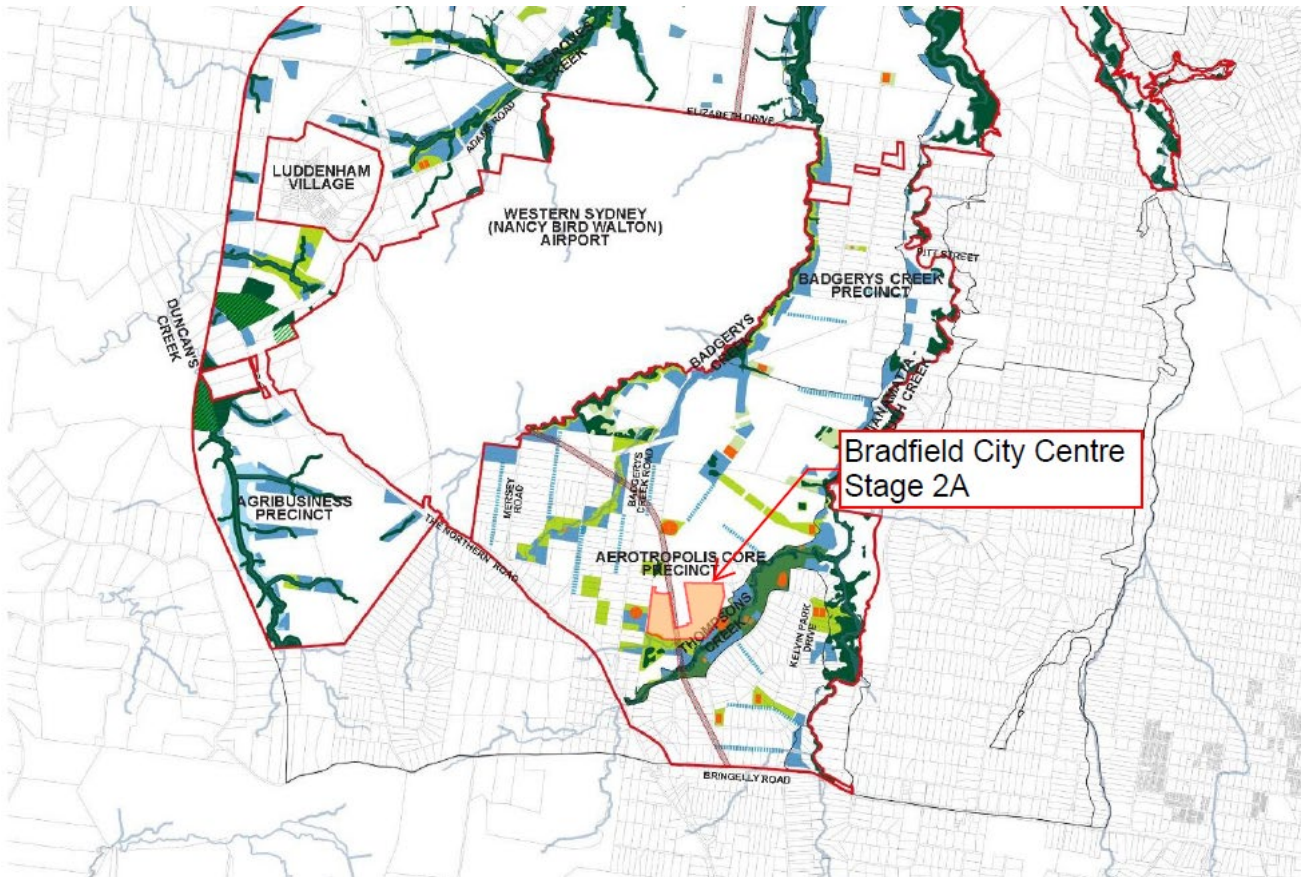
Source: WPCA

A summary of the minor (and justified) changes sought to Precinct Plan road layout is provide below:

- 1. Centre Loop West has been shifted slightly to the east, to be wholly within WPCA BCC land.
- 2. Park Edge Street (Badgerys Creek Rd) access road has been shifted slightly south to align with land identified for acquisition.
- 3. Innovation West has been shifted to the west out of the required Transport Corridor
- 4. Innovation South moved has been shifted slightly south to align with the eastern intersection with the Park Edge street.

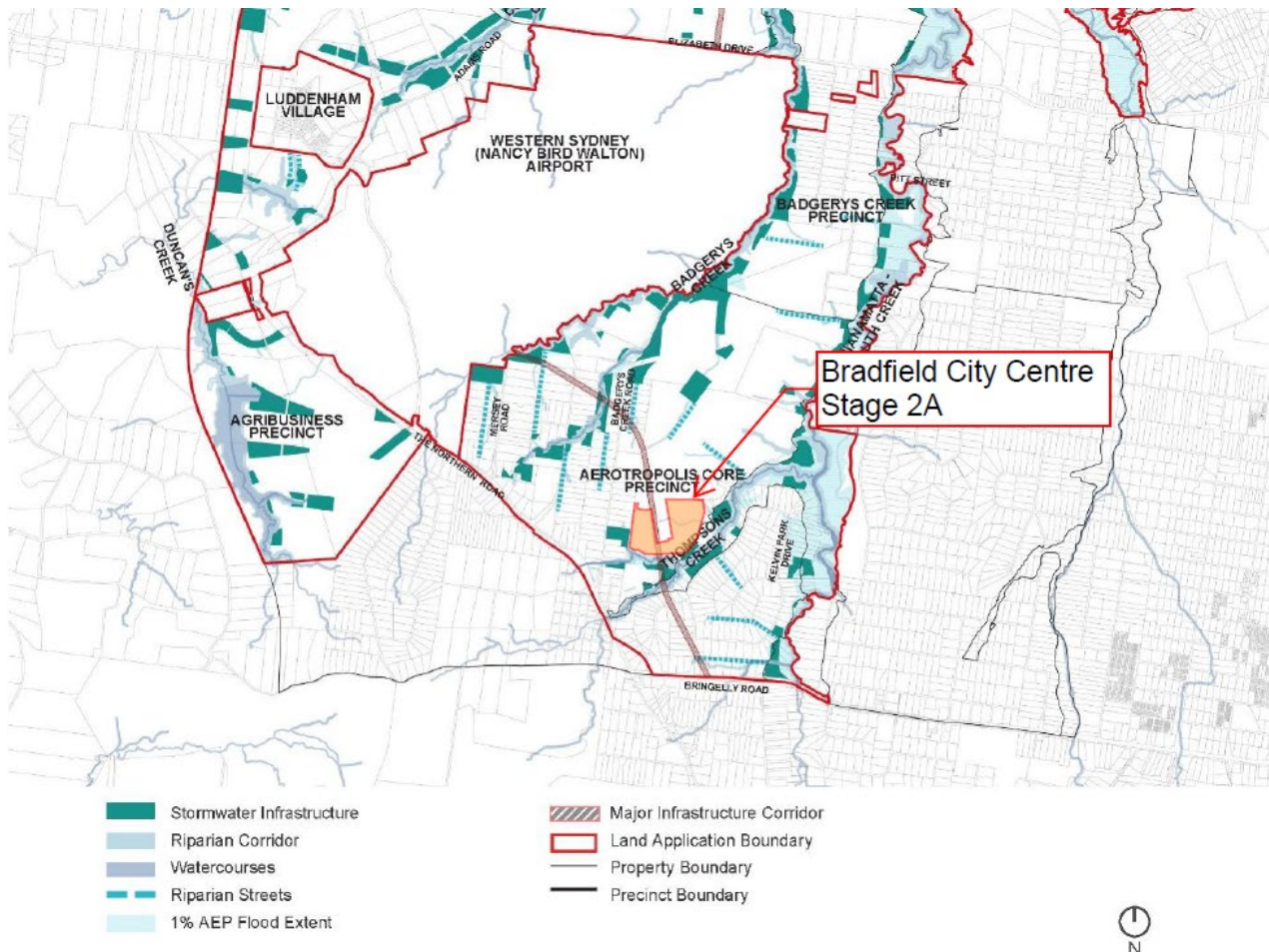
- 5. The eastern side of the Stage 2A REF does not propose to construct permanent roads however has been included for grading of surplus fill material.

Figure 24 Blue Green Infrastructure Map



Source: WPCA

Figure 25 Total Water Cycle Management Map



Source: WPCA

5.5.2 Western Sydney Aerotropolis Phase 2 Development Control Plan 2022

The Western Sydney Aerotropolis Development Control Plan 2022 (the **WSA DCP**) provides detailed development guidelines relevant to the siting and design of future development within the Aerotropolis Core.

This REF has been prepared under Part 5 of the EP&A Act pursuant to ‘development without consent’ provisions of the T&I SEPP and as such the DCP controls do not apply.

Notwithstanding, the proposed activity has been designed in accordance with the objectives and the design principles of the WSA DCP and a high-level assessment against the key relevant WSA DCP controls is provided below.

Section 2.4 (Vegetation and biodiversity)

This section applies to native vegetation and biodiversity and includes the following relevant sections:

- Section 2.4.1 - Deep Soil and Tree Canopy.
- Section 2.4.2 - Protection of Biodiversity.
- Section 2.4.3 - Protection of Trees and Vegetation.

- Section 2.4.4 - On Lot and Streetscape Landscaping and Preferred Plant Species.
- Section 2.4.5 – Street Tree Planting Requirements.

An assessment against the performance outcomes and benchmark solutions that comprise these four sections of the WSA DCP is provided in Section 6.7.9 of the draft Bradfield City Centre Master Plan BSIA (Biosis 2023). The enabling works will need to ensure they are consistent with the agreed actions detailed in the BSIA and ensure the mitigation measures detailed in the WSA DCP are implemented.

Section 2.3.2 Stormwater Management and Water Sensitive Urban Design

The proposed activity has been designed in accordance with the Department of Planning and Environment Technical guidance for achieving Wianamatta–South Creek stormwater management targets. For further details, refer to the Engineering Design Report.

Section 2.10 (Airport safeguarding)

This section includes provisions related to safeguarding the operation of the airport and includes controls for wildlife hazards which are relevant to biodiversity assessments. An assessment against the performance outcomes and benchmark solutions that comprise this section of the WSA DCP is provided in Section 6.7.10 of the draft Bradfield City Centre Master Plan BSIA (Biosis 2023). The enabling works will need to ensure they are consistent with the agreed actions detailed in the BSIA and ensure the mitigation measures detailed in the WSA DCP are implemented.

Section 4.1 (Road network and design)

The WSA DCP does not provide specific cross sections for all road types included in Stage 2A for the specific land use under Precinct Plan. Notwithstanding, an assessment of the proposed road cross sections is provided in the Engineering Design Report provided at **Appendix D**.

6. Assessment of Environmental Factors

Pursuant to section 171(3) of the EP&A Regulation, the following environmental factors (listed in the Department of Planning and Environment's Guidelines for Division 5.1 assessments (June 2022) (**Guidelines**) published under section 170 of the EP&A Regulation) have been considered to assess the likely impacts of the proposal on the natural and built environment.

Table 10 Assessment against section 170 of the EP&A Regulation

Consideration	Response	Satisfied
(a) Any environmental impact on the community.	The proposed activity relates to site clearing, construction of new roads, the provision of service authority utilities, street landscaping, and drainage and stormwater infrastructure. This provides a net positive benefit to the Aerotropolis area by providing initial works to support the delivery of Bradfield City Centre that will provide new homes, jobs and community facilities over the coming decades. During construction, there may be potential impacts on the environment due to increased traffic, noise and dust. These potential impacts would be temporary, and managed through the mitigation measures outlined in Section 9 of this REF. Therefore, the proposal will not have any negative environmental impact on the community.	Yes
(b) Any transformation of the locality.	The proposed activity will result in the long-term transformation of the locality through the creation of a new road network. Completion of these works will enable fully serviced super lots to be developed by WPCA or through private partners that will contribute to and support the early activation and place making for the Bradfield City Centre. The proposal will provide a positive benefit to the site and the wider community through providing enabling works to support the development of the Bradfield City Centre. The works themselves will establish the services and utilities that will be required to support the centre as it grows, transforming the locality. Future development proposals will	Yes

	further transform the site from its existing rural state to a mixed-use precinct.	
(c) Any environmental impact on the ecosystems of the locality.	Construction of the proposal would have the potential to involve the removal of native vegetation, removal of threatened fauna habitat, removal of threatened flora, aquatic impacts, fauna injury or mortality, impacts from construction noise, light and vibration. Furthermore, operation of the proposal would have the potential to result in reduced wildlife connectivity and habitat fragmentation, edge effects on adjacent native vegetation, invasion and spread of weeds, pests, pathogens and disease, changes to hydrology, impacts to groundwater dependent ecosystems and cumulative biodiversity impacts. Mitigation and management measures are proposed to minimise impacts on the ecosystems to the locality (refer to Section 9).	Yes
(d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality.	The proposed activity relates to site enabling works within the proposed Bradfield City Centre. The works will not result in any long-term negative impacts relating to the aesthetic, recreational, scientific, or environmental quality of the locality surrounding the site. During construction, the proposal would temporarily reduce the visual amenity of the locality due to the removal of vegetation, and visibility of the construction works. The works will deliver a new road network and service utilities essential for the future development of the site that will create a modern, green, well designed city centre for the Aerotropolis area.	Yes
(e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, or social significance or other special value for present or future generations.	A total of seven (7) AHIMS sites are located within the boundary of Stage 2A site, and as such, where impacts to any of the identified Aboriginal sites cannot be avoided, an approved Aboriginal Heritage Impact Permit (AHIP) will be required to authorise impacts. Suitable mitigation measures have been included within Section 9 of this REF that seek to manage the impact of the development on these sites and artefacts. Additionally, an unexpected finds protocol has been established within the mitigation measures. On 28 March 2024, the NSW DCCEEW issued an approved AHIP in respect to the 7 sites.	Yes

<p>(f) Any impact on the habitat of protected animals (within the meaning of the Biodiversity Conservation Act 2016).</p>	<p>The proposed activity will result in the removal of 9.75ha of native vegetation, and the removal of potential habitat for 7 threatened flora species and 19 threatened fauna species, listed under the EPBC Act or BC Act, which are determined to have a moderate or greater likelihood of occurrence within the broader study area. The proposal is however not considered to have a significant impact on any threatened or endangered species or threatened ecological community.</p> <p>Usually, further assessment of impacts would be required for these entities in the form of a Test of Significance (ToS) in accordance with section 7.3 of the BC Act. However, as the Stage 2A Enabling Works is restricted to areas mapped as certified land under the Growth Centres Biodiversity Certification Order, further assessment of impacts to these entities (in the form of ToS) is not required.</p> <p>Notwithstanding, mitigation and management measures are outlined in Section 9 to minimise biodiversity impacts due to the proposal. The primary measure for the development to minimise impacts to ecological values on the site is to limit the removal of native vegetation and habitat, provide compensatory habitat for the removal of hollow-bearing trees, and avoid impacts to aquatic systems and their associated riparian and key fish habitat buffers.</p>	<p>Yes</p>
<p>(g) Any endangering of any species of animal, plant, or other form of life, whether living on land, in water or in the air.</p>	<p>The proposal is considered not likely to endanger any species of animal, plant, or other form of life due to the limited amount of vegetation to be removed by the proposal that forms potential habitat for threatened flora, fauna and migratory bird species. Vegetation removal would be minimised following the mitigation and management measures outlined in Section 9.</p>	<p>Yes</p>
<p>(h) Any long-term effects on the environment.</p>	<p>The proposal would have minor long-term impacts on the environment due to removal of vegetation and the creation of a new road network. There would be long term visual amenity impacts on the proposal due to the construction of the new road network. The proposal would minimise any adverse impacts due to the proposal through sensitive design, and by completing progressive streetscape landscaping of the proposal area. The mitigation and management</p>	<p>Yes</p>

	<p>measures for the proposal are outlined in Section 9 to minimise environmental impacts due to the proposal.</p>	
<p>(i) Any degradation of the quality of the environment.</p>	<p>The proposed Stage 2A Enabling Works has the potential to degrade the quality of the environment through construction noise, visual impacts of the construction works, water impacts due to erosion and sedimentation, air impacts due to dust from construction works and emissions from construction plant and vehicles, as well as accidental spills during construction. These potential impacts would be managed using a suite of safeguards and mitigation measures outlined in Section 9. The construction footprint would be reduced as far as practicable, and the site would be rehabilitated as work progresses to minimise impacts. In the long-term, the project would provide a range of benefits including delivering the required road network and utilities which will facilitate future development across the site in accordance with the draft BCC Master Plan.</p>	<p>Yes</p>
<p>(j) Any risk to the safety of the environment.</p>	<p>The proposed enabling works will not present any ongoing risk to the safety of the environment and will not increase the risk of harm from environmental hazards or events. Mitigation measures are provided in Section 9 to ensure that construction activities will not cause pollution or contamination. The design and layout of the new roads will ensure that future users are provided a safe and high-quality road network.</p>	<p>Yes</p>
<p>(k) Any reduction in the range of beneficial uses of the environment.</p>	<p>The proposal would result in traffic impacts during construction which would include an increase in the volume of heavy vehicles, interruption of traffic flow and temporary reduced speeds to implement safety measures, and temporary impacts to access.</p> <p>However, in the long-term, the proposed activity will not limit or reduce the range of beneficial uses of the environment and rather will ready the site for future development in accordance with the draft BCC Master Plan.</p>	<p>Yes</p>
<p>(l) Any pollution of the environment.</p>	<p>There would be some potential construction noise due to the operation of plant and machinery, visual impacts due to the construction site within the locality, air pollution due to dust from the</p>	<p>Yes</p>

construction site, water pollution due to potential spills, and erosion and sedimentation impacts associated with construction of the proposed activity. Construction activities would be carefully managed with numerous safeguards for the protection of the environment from pollution (refer to **Section 9**).

(m) Any environmental problems associated with the disposal of waste.	<p>Waste would be generated across a number of waste streams during construction. All waste generated by the proposal will be carefully removed, packaged, and transported from the site to an offsite waste facility.</p> <p>A key aim of the project will be to minimise the generation of construction waste and maximise recovery of resources for recycling/reuse. The project will prioritise non-composite materials, low or zero carbon materials, and materials with recycled content. The project will also avoid ‘red list’ material usage – that is ‘worst in class’ materials, chemicals and elements known to pose serious risks to human and/or ecosystem health.</p> <p>Waste materials would be appropriately managed following the safeguards and mitigation measures within Section 9 and any material removed from site would be taken to an appropriately licenced facility. No impacts are proposed during the operation of the proposal.</p>	Yes
---	--	-----

(n) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply.	<p>The proposed activity will not increase the demand for resources that are or are likely to become in short supply. None of the resources required to construct this proposal are, or are likely to become, in short supply.</p>	Yes
---	--	-----

(o) Any cumulative environmental effect with other existing or likely future activities.	<p>The proposal forms part of the wider delivery of the draft BCC Master Plan. There are potential cumulative impacts due to the proposal and associated construction works within the locality such as combined traffic impacts, visual amenity for travellers along the highway, and minor air impacts from plant and vehicle emissions. Any cumulative impacts will be addressed by implementing the mitigation measures provided in Section 9 of this REF. The proposal is not anticipated to generate any major environmental impacts.</p>	Yes
--	--	-----

<p>(p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions.</p>	<p>The proposed activity is not located within a coastal zone.</p>	<p>N/A</p>
<p>(q) Any applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Division 3.1 of the Act.</p>	<p>The proposed activity is consistent with the strategic policies identified in Section 9 of this REF.</p>	<p>Yes</p>
<p>(r) Any other relevant environmental factors.</p>	<p>There are no other relevant environmental factors which require consideration for the proposed activity.</p>	<p>N/A</p>

7. Stakeholder and Community Consultation

The proposed activity is captured under Chapter 2 of the T&I SEPP, which permits development for the purposes of new roads and site servicing to be carried out by or on behalf of a public authority without development consent. The T&I SEPP (Part 2.2) sets out applicable consultation requirements for Part 5 which are detailed in the table below.

Table 11 Consultation and Notification requirements under the T&I SEPP

Section	Relevant consultation requirements	Applicable (Yes/No)
Section 2.10 Consultation with councils – development with impacts on council-related infrastructure or services	<p><i>This section applies to development carried out by or on behalf of a public authority that this Chapter provides may be carried out without consent if, in the opinion of the public authority, the development –</i></p> <ul style="list-style-type: none"> <i>will have a substantial impact on stormwater management services provided by a council, or</i> <i>is likely to generate traffic to an extent that will strain the capacity of the road system in a local government area, or</i> <i>involves connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a council, or</i> <i>involves connection to, and use of a substantial volume of water from, any part of a water supply system owned by a council, or</i> <i>involves the installation of a temporary structure on, or the enclosing of, a public place that is under a council’s management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential, or</i> <i>involves excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the Roads Act 1993 (if the public authority</i> 	<p>Yes</p> <p>Mandatory 21 calendar day consultation is required with LCC in accordance with section 2.10.</p> <p>Council was notified by WPCA on 29 February 2024 via email of WPCA’s intention to carry out the proposed activity. 36 comments were received from Council with the 21-day period following this notice.</p>

that is carrying out the development, or on whose behalf it is being carried out, is not responsible for the maintenance of the road or footpath).

A public authority, or a person acting on behalf of a public authority, must not carry out development to which this section applies unless the authority, or the person has —

- given written notice of the intention to carry out the development (together with a scope of works) to the council for the area in which the land is located, and*
- taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.*

<p>Section 2.11 Consultation with councils — development with impacts on local heritage</p>	<p><i>This section applies to development carried out by or on behalf of a public authority if the development —</i></p> <ul style="list-style-type: none"> <i>• is likely to affect the heritage significance of a local heritage item, or of a heritage conservation area, that is not also a State heritage item, in a way that is more than minor or inconsequential, and</i> <i>• is development that this Chapter provides may be carried out without consent.</i> <p><i>A public authority, or a person acting on behalf of a public authority, must not carry out development to which this section applies unless the authority, or the person has —</i></p> <ul style="list-style-type: none"> <i>• had an assessment of the impact prepared, and</i> <i>• given written notice of the intention to carry out the development, with a copy of the assessment and a scope of works, to the council for the area in which the heritage item or heritage conservation area (or the relevant part of such an area) is located, and</i> <i>• taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.</i> 	<p>No The proposed activity does not affect any local or State heritage items.</p>
---	--	--

<p>Section 2.12 Consultation with councils – development with impacts on flood liable land</p>	<p><i>In this section, flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the manual entitled Floodplain Development Manual: the management of flood liable land published by the New South Wales Government and as in force from time to time.</i></p> <p><i>A public authority, or a person acting on behalf of a public authority, must not carry out, on flood liable land, development that this Chapter provides may be carried out without consent and that will change flood patterns other than to a minor extent unless the authority or person has –</i></p> <ul style="list-style-type: none"> • <i>given written notice of the intention to carry out the development (together with a scope of works) to the council for the area in which the land is located, and</i> • <i>taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.</i> 	<p>Yes</p> <p>Mandatory 21 calendar day consultation is required with LCCC in accordance with section 2.12.</p> <p>Council was notified by WPCA on 29 February 2024 via email of WPCA’s intention to carry out the proposed activity. 36 comments were received from Council with the 21-day period following this notice.</p>
<p>Section 2.13 Consultation with State Emergency Service – development with impacts on flood liable land</p>	<p><i>A public authority, or a person acting on behalf of a public authority, must not carry out development on flood liable land that may be carried out without development consent under a relevant provision unless the authority or person has –</i></p> <ul style="list-style-type: none"> • <i>given written notice of the intention to carry out the development (together with a scope of works) to the State Emergency Service, and</i> • <i>taken into consideration any response to the notice that is received from the State Emergency Service within 21 days after the notice is given.</i> 	<p>Yes</p> <p>Mandatory consultation is also required with the State Emergency Services (SES) in accordance with section 2.13.</p> <p>The SES was notified by WPCA on 29 February 2024 via email of WPCA’s intention to carry out the proposed activity. Seven (7) comments were received from SES with the 21-day period following this notice.</p>
<p>Section 2.15 Consultation with authorities other than councils</p>	<p><i>A public authority, or a person acting on behalf of a public authority, must not carry out specified development that this Chapter provides may be carried out without consent unless the authority or person has –</i></p> <ul style="list-style-type: none"> • <i>given written notice of the intention to carry out the development (together with a scope of works) to the specified</i> 	<p>N/A</p> <p>As per Section 2.17 of the T&I SEPP, consultation with WPCA under Section 2.15 is not required, as WPCA is the public authority carrying out the proposed activity.</p>

authority in relation to the development, and

- taken into consideration any response to the notice that is received from that authority within 21 days after the notice is given.

For the purposes of subsection (1), the following development is specified development and the following authorities are specified authorities in relation to that development —

...

development within a Western City operational area specified in the Western Parkland City Authority Act 2018, Schedule 2 with a capital investment value of \$30 million or more — the Western Parkland City Authority constituted under that Act.

<p>Section 2.45 Notification of certain electricity substation development that may be carried out without consent</p>	<p><i>This section applies to development (other than exempt development) that —</i></p> <ul style="list-style-type: none"> • <i>is carried out by or on behalf of an electricity supply authority or public authority, and</i> • <i>is for the purpose of a new or existing electricity substation of any voltage (including any associated yard, control building or building for housing plant), and</i> • <i>is not a project to which Part 3A of the Act applies or State significant infrastructure.</i> <p><i>Before development to which this section applies is carried out, the electricity supply authority or public authority must —</i></p> <ul style="list-style-type: none"> • <i>give written notice of the intention to carry out the development to the council for the area in which the land is located (unless the authority is that council) and to the occupiers of adjoining land, and</i> • <i>take into consideration any response to the notice that is received within 21 days after the notice is given.</i> 	<p>No</p> <p>The proposed activity does not relate to development of electricity substation.</p>
<p>Notification of carrying out of certain</p>	<p><i>This section applies to development that may be carried out by or on behalf of a</i></p>	<p>No</p>

development under section 2.109 or 2.110 without consent

public authority without consent under section 2.109 or 2.110 for any of the following purposes –

- *car parks intended for use by commuters using regular bus services,*
- *bus depots,*
- *permanent road maintenance depots and associated infrastructure (such as garages, sheds, tool houses, storage yards, training facilities and workers' amenities).*

Before development to which this section applies is carried out on land, the public authority concerned must –

- *give written notice of the intention to carry out the development to the council for the area in which the land is located (unless the public authority is that council) and to the occupiers of adjoining land, and*
- *take into consideration any response to the notice that is received within 21 days after giving the notice.*

The proposed activity does not relate to a car park, bus depot or permanent road maintenance depot.

Part 2.2, Division 15, Subdivision 2
Development in or adjacent to a rail corridor or interim rail corridor – notification and other requirement

This part of the SEPP includes rail authority consultation and concurrence requirements in relation to development in or adjacent to a rail corridor or interim rail corridor.
Under the SEPP, there are no mandatory requirements to consult with Sydney Metro. The triggers for consultation with these stakeholders only relate to development applications.

No
Given the Stage 2A Enabling Works is impacted by a Transport Infrastructure Corridor, it is recommended that non-mandatory consultation be undertaken with Sydney Metro.

Part 2.2, Division 17, Subdivision 2
Development in or adjacent to road corridors or road reservations

This part of the SEPP includes TfNSW consultation and concurrence requirements in relation to development in or adjacent to a road corridors or road reservation.
Under the SEPP, there are no mandatory requirements to consult with TfNSW. The triggers for consultation with these stakeholders only relate to development applications.

No
Given the Stage 2A Enabling Works relates to roads, it is recommended that non-mandatory consultation be undertaken with TfNSW.

As outlined above, as the proposed activity relates to development with impacts on Council-related infrastructure or services, Section 2.10 of the T&I SEPP applies.

Section 2.10 requires a notice of the intention to carry out the development to be issued to LCC where development is being carried out with impacts on Council related infrastructure or services. It also requires the Proponent to take into consideration any responses to this notice that are received within 21 days after the notice is given.

As the proposed activity also includes the installation of underground telecommunications network cables, Section 2.141(7) requires formal notification for 21 days to LCC.

As the part of the broader site is identified as flood liable land, consultation is required with LCC and the State Emergency Services (**SES**) in accordance with Section 2.12 of the T&I SEPP.

Accordingly, LCC and the SES were notified by WPCA on 29 February 2024 via email of WPCA's intention to carry out the proposed activity. Further, the draft REF was placed on WPCA's website on 29 February 2024, and adjoining owners were notified, and no submissions were received.

In addition to LCC and SES, WPCA also notified the following agencies of their intention to carry out the proposed activity:

- TfNSW
- Sydney Metro
- Sydney Water
- NSW Department of Climate Change Energy, the Environment and Water (DCCEEW)

A response and consideration to all comments and advice received from the various stakeholders is provided in the Response to Submissions Report provided at **Appendix Q** of this REF.

8. Assessment of Environmental Impacts

8.1 Biodiversity

A Biodiversity Impact Assessment Addendum (refer to **Appendix L**) has been prepared by Biosis which provides an assessment of the potential impact of the proposed enabling works on ecological values within the Stage 2A subject site. The proposed activities that will result in impacts to ecological values include:

- Removal of 9.75 hectares of native vegetation, of which 5.53 hectares is in high condition and satisfies the listing criteria of Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC, EPBC Act), and all conditions (high, moderate and low) satisfy the criteria of Cumberland Plain Woodland in the Sydney Basin Bioregion (CEEC, BC Act).
- 8 hollow-bearing trees supporting the following hollows:
 - 8 small hollows (<50 mm entrance diameter).
 - 6 medium hollows (50 – 149 mm entrance diameter).
- Removal of potential habitat for 7 threatened flora species and 19 threatened fauna species, listed under the EPBC Act or BC Act, which are determined to have a moderate or greater likelihood of occurrence within the broader study area.
- Impacts to the riparian buffer zone of one unnamed Strahler order 1 system and the key fish habitat buffer zone associated with Moore Gully.

As the subject site occurs on certified land, further assessment of impacts to EPBC Act and BC Act listed threatened species is not required and entry into the BOS is not triggered. A SIS or BDAR is therefore not required.

Mitigation measures to avoid, minimise and mitigate the above impacts have been included in **Section 9** of this REF. As the enabling works include the development of water storage facilities (i.e., temporary stormwater basins) within the 13-kilometre wildlife buffer zone of the Western Sydney International Airport, it is recommended that fauna exclusion netting be considered over these facilities. These basins will be decommissioned prior to the Western Sydney International Airport becoming operational and therefore do not represent a wildlife hazard to the airport operations.

8.2 Construction Traffic Management

The Construction Environmental Management Plan (**CEMP**) (refer to **Appendix I**) outlines that it is not expected that the movement of construction vehicles within the site will have an impact on pedestrians or cyclists, as the site currently does not allow public access. Additionally, there are no foreseen disruptions to bus routes. During construction, the site will be accessible to all construction vehicles via Badgerys Creek Road. It is expected the volume of construction vehicles

will be significant during all stages of construction as they may still occur concurrently with the Aerotropolis Metro Station construction works. Badgerys Creek road will be servicing vehicles for two adjacent construction works.

Construction vehicles will be coming to site from Badgerys Creek Road which is sealed pavement that allows two-way movements. As such, impacts to property access for the residents along Badgerys Creek Road is not anticipated. All construction vehicles on-site will be reachable through UHF radio, adhere to site communication guidelines outlined during induction (whether online or face-to-face), comply with exclusion zones and designated haulage routes, and refrain from reversing on-site without proper authorisation.

The internal haulage routes and Vehicle Movement Plans (**VMPs**) will be established based on a risk assessment process, taking into account factors such as excavations, plant operations, exclusion zones, worker and pedestrian arrangements, and progression. Site access and egress points will be clearly marked on the approved TCP which is active for each work stage. During non-working hours each access point into the site will be secured with locked fences. Site egress will be via the nominated Site egress gates. All site access points will be sign posted and the approved traffic management plans will indicate where interactions between vehicles exist to reduce traffic risks.

After construction works are completed, the contractor will restore any damaged pavements as a result of vehicle loads on pavement and any other damage to kerbs and footpaths. This will be identified during Practical Completion. Where significant damage to existing roads is done during construction, the nominated contractor will be held responsible to rectify the defects.

In addition to the CEMP, a preliminary construction traffic and pedestrian management approach is provided in the Traffic Impact Assessment provided at **Appendix G**. It outlines that the Contractor responsible for delivery will prepare a detailed construction traffic management plan (**CTMP**), which may need to be approved by relevant authorities before construction commences. The CTMP would usually include Temporary Traffic Management Plans (**TTMPs**) and a Driver's Code of Conduct.

Badgerys Creek Road is expected to be the key haulage route to and from the site, with The Northern Road and Elizabeth Drive being the primary state access road. These haulage routes are consistent with what is being proposed for Sydney Metro Western Sydney Airport.

The peak construction traffic is estimated to be 30 light vehicles during peak periods. The addition of construction traffic generated by the development is unlikely to impact the overall network performance, given the low net increase in vehicle trips. Road network impacts by worker traffic to the site will be further mitigated by the construction workers generally starting earlier and finishing earlier than the commuter peak periods and would likely not coincide with the road network peak periods.

The temporary construction access via the temporary roundabout at Badgerys Creek Road will only be used by construction vehicles, with minimal impact on general commuters. There will also be sufficient parking space on site to minimise the impact of construction vehicles on the availability of local parking.

Mitigation measures to manage construction traffic impacts are provided in **Section 9** of this REF.

8.3 Construction Noise and Vibration

A Construction Noise and Vibration Assessment (refer to **Appendix I**) has been prepared by Rodney Stevens Acoustic to support the Stage 2A Enabling Works project.

This report identifies that there are only two sensitive receivers surrounding the site, and these receivers will be affected by noise generated by the proposed activity. The site is bounded by

residential receivers to the west and open park land in all other directions.

The proposed activity will create some noise and vibration impacts for surrounding landholders. The report outlines that there are potential direct and cumulative construction noise impacts of the project which has been found to exceed the 'noise affected' management level at some of the considered receiver locations. As outlined within the report, suitable mitigation measures should be implemented to reduce the impact of the proposed activity demolition and construction phases to manage any adverse noise throughout the work activities.

Mitigation measures to manage noise and vibration impacts are provided in **Section 9** of this REF.

8.4 Soil and Water Quality

The disturbance of actual or potential acid sulphate soils and/or acid drainage discharge can have significant adverse impacts on soil and water quality. Acid sulphate soils contain iron sulphide minerals that, when exposed to air and water through excavation or disturbance, can oxidize, leading to the release of sulfuric acid and heavy metals. The nominated principal contractor must implement comprehensive environmental management plans. These plans must include measures such as soil testing before disturbance, appropriate soil handling and containment techniques, neutralisation of acid drainage, and sediment control to prevent soil and heavy metal runoff.

If site workers or members of the local community come into contact with contaminated soil or hazardous building materials exposed during ground disturbance and demolition activities, the principal contractor must prioritize safety and environmental protection. Immediate steps should be taken to ensure the well-being of individuals involved. Medical attention should be sought for any potential health concerns, and a record of the incident must be documented for reporting purposes. Simultaneously, the contractor should engage qualified environmental consultant to assess the extent of contamination, implement containment measures to prevent further spread, and develop a comprehensive remediation plan in accordance with LCC regulations and environmental best practices.

Mitigation measures to manage soil and water quality impacts are provided in **Section 9** of this REF.

8.5 Sediment and Erosion Control

As part of the works, erosion and sedimentation controls will be constructed generally in accordance with the drawings, Landcom's Blue Book and Sydney Water's requirements. The bulk earthworks for the Stage 2A development will involve grading and road construction. All sediment and erosion controls will be maintained as required during construction. A temporary detention/bioretenion basin will be utilised as a sediment basin and maintained during civil construction to control soil loss.

Mitigation measures to address sediment and erosion impacts are provided in **Section 9** of this REF.

8.6 Bushfire

The site is identified as bushfire prone land. Bushfire Advice has been prepared by Ecological which provides specific recommendations regarding the proposed construction of new roads and potential

compliance of future development with bushfire related specifications for this bushfire protection measures (BPM).

Based on review of the Stage 2A REF scope of works, existing hazards identified in previous reports (ELA 2022) and future hazards, it was determined the following roads are considered perimeter roads:

- Road 01 (Innovation East);
- Road 05 (Centre Loop South); and
- Road 06 (Centre Loop West).

The remainder of the road network proposed is treated as non-perimeter roads with regards to residential subdivision bushfire requirements under PBP.

An assessment of the proposed road design has been undertaken and specific recommendations are provided within the report including:

- It is recommended the Road 05 design is amended to utilise a 2.5 m parking bay and 4 m one-way carriageway. While a 4 m one-way carriage way is still considered a performance solution under PBP, it can meet the intent of the prescribed 8 m two-way carriageway.
- It is recommended the Road 06 design is amended to utilise a 2.5 m parking bay and 4 m one-way carriageway. While a 4 m one-way carriage way is still considered a performance solution under PBP, it can meet the intent of the prescribed 8 m two-way carriageway.

In lieu of any design changes as recommended above, alternative design specifications may be developed in conjunction with a bushfire consultant and concurrence from RFS.

In addition, to ensure future development can achieve compliance with PBP, the following requirements also apply:

- Stage 2A works related to the provision of infrastructure such as reticulated water, underground electricity and gas supply should meet the requirements for these aspects as identified in Tables 5.3b and 5.3c of PBP.
- Stage 2A landscaping works should be compliant with the Inner Protection Area requirements detailed in Appendix 4.1.1 of PBP to meet Asset Protection Zone Requirements of PBP.
- Stage 2A works are related to the provision of new roads. These should meet the requirements and specifications detailed in Table 5.3b of PBP. This includes perimeter road specifications where development is adjacent to existing, future or temporary hazards.

In addition to the above, the following points should also be considered:

- Existing access roads, including perimeter roads that support adjacent development should not be impacted by Stage 2A works.
- Existing reticulated water supply supporting adjacent development, should not be impacted by Stage 2A works.
- Landscaping should not result in an increased bushfire risk for adjacent properties.

Mitigation measures to address bushfire impacts are provided in **Section 9** of this REF.

8.7 Air Quality

The likelihood of windblown dust being produced at the Bradfield City Centre construction site is significant. The quantity of dust generated is contingent upon various factors including planning, weather conditions, ongoing activities, the materials in use and implemented control measures. Additionally, the prevailing wind direction can vary throughout different seasons, and wet weather conditions can further influence the situation. Another type of air pollution that may potentially arise on a construction site stems from emissions produced by machinery. The construction works are to be completed in association with the Air Quality (refer to Section 1.1 & 1.2 of the report) component of the Environmental Aspects table of the CEMP attached at **Appendix I**.

Mitigation measures to manage air quality impacts are provided in **Section 9** of this REF.

8.8 Traffic – Operational

A Traffic Impact Assessment (refer to **Appendix G**) has been prepared by SCT Consulting for the Stage 2A Enabling Works.

As part of the first phase of City creation, the delivery of Stage 2A works and the associated road network will be delivered in sub-stages. The subject of this traffic impact study includes the following road network and intersections that are shown within the Stage 2A works area:

- Road 01 (Innovation East)
- Road 03 (Innovation North)
- Road 04 (Innovation West)
- Road 05 (Central Loop South)
- Road 09 and Road 10
- Centre Loop West Road / Innovation North Road (Intersection 3)
- Centre Loop West Road / Innovation South Road (Intersection 5)
- Centre Loop West Road / Centre Loop South Road (Intersection 6)
- Centre Loop South Road / Innovation West Road (Intersection 7)
- Innovation East Road / Centre Loop South Road (Intersection 8)

SIDRA modelling has been undertaken to the performance of the five subject intersections within the Stage 2A works area and to inform the civil design of the five subject intersections prepared by SMEC. The proposed intersection layout was assessed using forecast traffic volumes for 2026, 2036 and 2056 AM and PM peak hours.

SIDRA modelling confirmed that all intersections (as part of the Stage 2a works area) will operate at LoS D or better.

8.9 Groundwater

The proposed activity includes a series of water quality basins are proposed along the Moore Gully creek line where shallow, very saline groundwater is present. The report outlines that very saline groundwater encountered could be of concern to the proposed activity in relation to infrastructure, local erosion and plant growth. Very saline groundwater was encountered at depths as shallow as 1.7 m bgl within the boreholes, though it is noted that the groundwater levels closely matched the water levels noted at the surface in Moore Gully indicating that the groundwater and surface water

are in connection. As a result, there are likely other areas with shallow groundwater present. The report outlines in addition to suitable mitigation measures implemented during the construction phase, further assessment of the impact of the saline groundwater system is required to be undertaken at the detailed design phase of the project.

The report outlines that the salinity and aggressivity levels encountered are typical of the region. Whilst the soil required management it is considered that the strategies described in the report will appropriately manage and mitigate the levels of salinity, aggressivity identified at the site.

Mitigation measures to manage groundwater impacts are provided in **Section 9** of this REF.

8.10 Geotechnical

The Geotechnical and Salinity Assessment Addendum (refer to **Appendix J**) undertaken by Douglas Partners has indicated that most of the site will be suitable for the proposed activity, with comments given on geotechnical limitations, development guidelines, indicative pavement thicknesses. Further detailed geotechnical investigation and assessment is required as outlined in the report as the design of the development proceeds.

The geotechnical investigation must include (but not necessarily be limited to):

- Further investigation for the specific basin and water quality structures proposed in the SIC.
- Additional pavement design test locations and CBR confirmation in areas where access was not permitted such as the properties to the west of Stage 2 and in the AMRF1 construction area. Confirmation CBR testing will also be required in filled areas during construction.
- Routine inspections and earthworks monitoring during construction.
- Detailed geotechnical investigations for the sewer services once detailed design progresses.

The investigations previously carried out by Douglas Partners to date indicate that the site is suitable for the proposed activity provided the comments, recommendations, and management strategies provided are followed during construction.

Mitigation measures to manage geotechnical impacts are provided in **Section 9** of this REF.

8.11 Salinity

A Salinity Assessment (refer to **Appendix R**) was previously carried out by DP with the results presented in a report titled “Report on Salinity Investigation, Proposed Urban Development, Bradfield City Centre, Badgerys Creek Road, Bradfield” (DP Report 222630.00.R.004.Rev1 dated 22 January 2024). The investigation was carried out for whole Bradfield City Centre site (excluding the Metro Site). The investigation included the excavation of 10 test pits to depths of up to 3 metres and an electromagnetic survey of the site. The electromagnetic survey measures apparent electrical conductivity which correlates to soil salinity allowing high resolution mapping of the shallow salinity on site.

The relevant results to Stage 2A are summarised as follows:

- Maximum soil salinity typically occurs at depths of 1 – 1.5 metres below ground surface.

- Soils were typically slightly to moderately saline with some areas of non-saline soils and isolated areas of very saline soils. Very saline soils were typically located in low-lying areas with poor drainage.
- The soils were typically highly sodic indicating a high potential for erosion.
- Soils were non-aggressive to slightly aggressive to concrete and steel.

The report included a salinity management plan which provides strategies to manage the soil salinity, erodibility and aggressivity as part of the development process.

Mitigation measures to manage salinity impacts are provided in **Section 9** of this REF.

8.12 Landscaping

A Landscape Design Report (refer to **Appendix F**) has been prepared by Taylor Brammer for the proposed works which prioritises four design principles that prioritise creating a compliant and cohesive landscape strategy across the Stage 2A site that considers the impacts of the proposal on the surrounding environment. To reduce this impact the following principles have been adopted:

- Connecting to Country
- Urban Heat Island Mitigation
- Water Sensitive Urban Design (**WSUD**)
- Crime Prevention Through Environmental Design (**CPTED**).

Additionally, the landscape design approach for the development engages the green and blue infrastructure as per policies of GANSW across the site in expanding the existing tree and vegetation cover. Due to the nature of the development, the proposal seeks to apply an extensive tree planting strategy to achieve urban tree canopy targets.

The tree canopy strategy develops on established design and masterplan design principles including the design with Country framework along with multiple background masterplan documentation. This guidance documentation outlines the typical tree densities along with species listed from the WSA DCP list to ensure an environmentally sustainable development is created. The proposal provides 622 new canopy trees to the area and provides 55 per cent tree canopy coverage which exceeds the WSA DCP requirement for 45 per cent coverage.

8.13 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment Report (**ACHAR**) Addendum (refer to **Appendix N**) has been prepared by Extent Heritage to assess the impacts of the proposed Stage 2A Enabling Works on Aboriginal cultural heritage. As identified in the addendum, a total of seven (7) AHIMS sites are located within the boundary of Stage 2A.

The report outlines that where possible cultural heritage should be conserved and protected, although where conservation is not practical, measures must be implemented to mitigate against the loss of archaeological value. Within the Stage 2A boundary, only the site of Thompsons Creek was assessed as holding moderate significance. The remaining identified Aboriginal sites have been determined to hold low significance, and as a result impacts may be considered negligible.

Where impacts to any of the identified Aboriginal sites cannot be avoided, an approved AHIP is

required to authorise impacts. As the nature of the works do not facilitate conservation or protection of the sites; an AHIP was requested and subsequently granted an AHIP in respect to the 7 sites.

Mitigation measures to manage the impact of the development on aboriginal heritage including an unexpected finds protocol are included in **Section 9** of this REF.

8.14 Non-Aboriginal Heritage

A Non-Aboriginal Heritage Assessment Addendum (refer to **Appendix O**) has been prepared by Extent Heritage which identified that an analysis of the historical archaeological potential within the Bradfield City centre which includes the Stage 2A, identified a high potential for remains associated with the RAAF Bringelly Receiving Station.

There is the possibility that these remains from the late twentieth century would include evidence of earthworks, RAAF infrastructure and staff houses which although are expected to have low research potential. The remains would not meet the criteria for local significance according to the NSW Heritage Division publication 'Assessing Heritage Significance,' (2001). Additionally, there is not expected to be any remains associated with aboriginal occupation or British exploration and survey of the site and therefore no further assessment was required.

The report also outlines that Bradfield City Centre is not listed as a heritage item on any register and does not meet the criteria for local or state heritage significance. The study area is located in the vicinity of the State Heritage register item 'Kelvin' which is an early 19th century homestead and farming complex. A State of Heritage Impact found that the proposed masterplan will not detract from the significance of the item and also included recommendations to mitigate impacts to the views and setting of the item.

As such no further assessment or investigation relating to historical archaeology or built heritage is required within the Stage 2A boundary.

Any unexpected relics or features must be managed under an unexpected finds procedure as provided in **Section 9** of this REF.

8.15 Contamination

A Contamination Assessment Report Addendum (refer to **Appendix P**) has been prepared by ERM for the Stage 2A Enabling Works which states that previous site investigations confirmed the site is suitable for commercial/industrial mixed use and open space. While the site was found suitable for the proposed future land uses, due to the potential of unexpected finds within the site, ERM recommended that an Asbestos Management Plan (**AMP**) be developed to manage potential unexpected finds of asbestos impacted soils that may be encountered during future works.

ERM therefore developed an AMP. The AMP included an unexpected finds protocol (**EFP**) as per recommendations of the previous investigations. ERM therefore notes that all works under this REF will need to be undertaken in consideration of the Site Auditor approved AMP where potential unexpected finds are encountered during future construction activities.

Mitigation measures to manage contamination are provided in **Section 9** of this REF.

8.16 Visual Amenity

The proposed construction works are not anticipated to impact the visual amenity of the area as the site is located near an existing live construction site for the new Sydney Metro network. The site is not located near any buildings or highways where any screening of the works would be required.

8.17 Socio-Economic Considerations

The proposed activity itself will provide minimal short term social impacts due to the enabling works scope that is limited to increasing site servicing and access. These works although will assist in delivering future community infrastructure, housing, and jobs for the future Bradfield City Centre in turn creating significant social benefit for future residents and workers as well as economic investment within the Aerotropolis precinct.

The identified mitigation measures to reduce impact to surround land holders during construction works are provided in this REF and also included in the CEMP provided at **Appendix I**. In the short term, the works will also create additional construction jobs within the Aerotropolis region.

8.18 Cumulative Impacts

The cumulative impacts will be a net positive with the provision of improved and upgraded facilities within the Bradfield City Centre to help facilitate the delivery of future development within the site. The proposed enabling works will allow for the provision of the:

- Design and implementation of erosion and sediment control measures prior to construction commencement.
- Maintenance of erosion and sedimentation controls including sediment basins during construction.
- Bulk earthworks.
- Design of new roads with priority and signalised intersections.
- Proposal of a Bus Transit Boulevard.
- Interface with the new Bradfield Metro station.
- Creation of new lots as a result of the creation of new roads.
- Connection to existing Badgerys Creek Road.

The Stage 2A Enabling Works are focused on delivering fully serviced development blocks. Completion of these works will enable fully serviced super lots to be developed by WPCA or through private partners that will contribute to and support the early activation and place making for the Bradfield City Centre.

9. Requirements and Mitigation Measures

9.1 Plans and Documents

The activity shall be undertaken generally in accordance with the following plans and documentation:

Civil Engineering Drawings:

Drawing Reference	Title	Author
30013454.01.REF001	COVER SHEET & LOCALITY PLAN	SMEC
30013454.01.REF002	SHEET SCHEDULE & NOTES	SMEC
30013454.01.REF030	STAGING PLAN	SMEC
30013454.01.REF031	GENERAL ARRANGEMENT PLAN	SMEC
30013454.01.REF032	ROAD HIERARCHY PLAN	SMEC
30013454.01.REF041	TYPICAL ROAD CROSS SECTIONS SHEET 1	SMEC
30013454.01.REF042	TYPICAL ROAD CROSS SECTIONS SHEET 2	SMEC
30013454.01.REF043	TYPICAL ROAD CROSS SECTIONS SHEET 3	SMEC
30013454.01.REF044	TYPICAL ROAD CROSS SECTIONS SHEET 4	SMEC
30013454.01.REF051	CUT AND FILL PLAN	SMEC
30013454.01.REF061	CUT AND FILL SECTIONS	SMEC
30013454.01.REF101	CIVIL PLAN SHEET 1	SMEC
30013454.01.REF102	CIVIL PLAN SHEET 2	SMEC
30013454.01.REF103	CIVIL PLAN SHEET 3	SMEC
30013454.01.REF104	CIVIL PLAN SHEET 4	SMEC

30013454.01.REF201	ROAD LONGITUDINAL SECTIONS SHEET 1	SMEC
30013454.01.REF202	ROAD LONGITUDINAL SECTIONS SHEET 2	SMEC
30013454.01.REF203	ROAD LONGITUDINAL SECTIONS SHEET 3	SMEC
30013454.01.REF204	ROAD LONGITUDINAL SECTIONS SHEET 4	SMEC
30013454.01.REF205	ROAD LONGITUDINAL SECTIONS SHEET 5	SMEC
30013454.01.REF206	ROAD LONGITUDINAL SECTIONS SHEET 6	SMEC
30013454.01.REF207	ROAD LONGITUDINAL SECTIONS SHEET 7	SMEC
30013454.01.REF208	ROAD LONGITUDINAL SECTIONS SHEET 8	SMEC
30013454.01.REF351	PAVEMENT PLAN	SMEC
30013454.01.REF501	CATCHMENT PLAN	SMEC
30013454.01.REF801	SIGNAGE AND LINE MARKING PLAN	SMEC
30013454.01.REF811	VEHICLE TURNING PATHS SHEET 1	SMEC
30013454.01.REF812	VEHICLE TURNING PATHS SHEET 2	SMEC
30013454.01.REF813	VEHICLE TURNING PATHS SHEET 3	SMEC
30013454.01.REF851	SOIL AND WATER MANAGEMENT PLAN	SMEC
30013454.01.REF861	SOIL & WATER MANAGEMENT DETAILS	SMEC

Landscape Drawings:

Drawing Reference	Title	Author
REF2(a).LA 000	COVER PAGE	Taylor Brammer
REF2(a).LA 100	STAGING PLAN	Taylor Brammer
REF2(a).LA 101	SITE PLAN	Taylor Brammer
REF2(a).LA 102	CONCEPT APPROACH - INNOVATION NORTH AND WEST	Taylor Brammer
REF2(a).LA 103	CONCEPT APPROACH - CENTRAL LOOP SOUTH AND WEST	Taylor Brammer
REF2(a).LA 104	CONCEPT APPROACH - INNOVATION EAST	Taylor Brammer

REF2(a).LA 105	PLANTING SCHEDULE	Taylor Brammer
REF2(a).LA 202	CENTRE LOOP WEST 1	Taylor Brammer
REF2(a).LA 203	CENTRE LOOP WEST 2	Taylor Brammer
REF2(a).LA 204	CENTRE LOOP WEST 3	Taylor Brammer
REF2(a).LA 205	CENTRE LOOP WEST 4	Taylor Brammer
REF2(a).LA 301	ROAD 8	Taylor Brammer
REF2(a).LA 401	INNOVATION WEST 1	Taylor Brammer
REF2(a).LA 402	INNOVATION WEST 2	Taylor Brammer
REF2(a).LA 501	INNOVATION EAST 8	Taylor Brammer
REF2(a).LA 601	INNOVATION NORTH 1	Taylor Brammer
REF2(a).LA 602	INNOVATION NORTH 2	Taylor Brammer
REF2(a).LA 703	INNOVATION SOUTH 3	Taylor Brammer
REF2(a).LA 704	INNOVATION SOUTH 4	Taylor Brammer
REF2(a).LA 803	CENTRE LOOP SOUTH 3	Taylor Brammer
REF2(a).LA 804	CENTRE LOOP SOUTH 4	Taylor Brammer
REF2(a).LA 805	CENTRE LOOP SOUTH 5	Taylor Brammer
REF2(a).LA 806	CENTRE LOOP SOUTH 6	Taylor Brammer
REF2(a).LA 900	LANDSCAPE DETAILS	Taylor Brammer

Documents:

The works must occur in accordance with all plans, statements and reports appended to this report.

Title	Author	Reference
Civil Engineering Drawings	SMEC	Appendix A
Electrical Services Drawings	SMEC	Appendix B
Water Services Drawings	SMEC	Appendix C

Engineering Design Report	SMEC	Appendix D
Landscape Drawings	Taylor Brammer	Appendix E
Landscape Design Report	Taylor Brammer	Appendix F
Traffic Impact Assessment	SCT Consulting	Appendix G
Construction Noise and Vibration Impact Assessment	Rodney Stevens Acoustics	Appendix H
Construction Environmental Management Plan	SMEC	Appendix I
Geotechnical and Salinity Assessment (Addendum)	Douglas Partners	Appendix J
Bushfire Advice (Addendum)	Ecological	Appendix K
Biodiversity Impact Assessment Report (Addendum)	Biosis	Appendix L
Flood Impact Assessment (Addendum)	Worley Consulting	Appendix M
Aboriginal Cultural Heritage Assessment Report (Addendum)	Extent Heritage	Appendix N
Non- Aboriginal Heritage Assessment (Addendum)	Extent Heritage	Appendix O
Contamination Assessment (Addendum)	ERM	Appendix P
Response to Submissions Report	Urbis	Appendix Q
BCC draft Master Plan Salinity Investigation (inclusive of Salinity Management Plan)	Douglas Partners	Appendix R
Additional Biodiversity Advice	Biosis	Appendix S
MUSIC Model	SMEC	Appendix T
BCC draft Master Plan Geotechnical Report	Douglas Partners	Appendix U

9.2 Activity Certification

In accordance with Section 6.28 of the EP&A Act, Crown building work (which includes development pursuant to Division 5.1 of the EP&A Act) cannot be commenced unless the Crown building work is certified by or on behalf of the Crown to comply with the technical provisions of the State's building laws in force as at:

- The date of the invitation for tenders to carry out the Crown building work, or
- In the absence of tenders, the date on which the Crown building work commences, except as provided by this section.

Prior to commencement of any construction works, WPCA (or their nominated delegate) shall ensure the activity has obtained a certification in accordance with Section 6.28 of the EP&A Act.

9.2.1 Other Approvals and Registration

Aside from certification pursuant to section 6.28 of the EP&A Act, no other approvals pursuant to the EP&A Act or other relevant legislation have been identified as being required to facilitate the proposed activity.

Nevertheless, should any other approvals be required, these must be obtained prior to the commencement of activity on site. A copy of all approval certification details is to be kept and retained as part of the document package register with WPCA.

9.2.2 Complaints Response

Complaints received shall be recorded, investigated and resolved as soon as possible. On receiving a complaint, works shall be reviewed to determine whether issues relating to the complaint can be avoided or minimised. Feedback shall be provided to the complainant explaining what remedial action was taken.

9.2.3 Connection to Infrastructure

Where services are required, these connections should be made in a suitable manner with the appropriate approval from the relevant authority.

9.2.4 Removal of Temporary Structures

After the completion of relevant construction works on site, any temporary structures should be removed from site as soon as is practicable.

9.2.5 Limits on the Scope of this REF

For the purposes of undertaking the environmental impact assessment set out in this Review of Environmental Factors, we have been instructed that the proposal will not result in any works beyond those either listed under the 'Proposed Activity' section of this REF or documented within the plans appended to this report.

Should any of the above be incorrect, a separate environmental assessment and approval will be required.

9.2.6 Further Changes to Design

The development shall be carried out in accordance with the application and “approved plans” listed in this REF and attached to this determination and the required design changes outlined below.

Where any variation to the design is sought post this determination, the applicant shall ensure that appropriate development approvals are in place and complied with prior to any works being commenced/continued.

9.3 Mitigation Measures

The following section sets out general mitigation, safeguards and management and avoidance measures designed to avoid or minimise the potential indirect and direct impacts associated with the proposal.

Design Changes Required under this REF

1. *Prior to obtaining a Crown Certificate for the works, pedestrian and cyclist crossing facilities must be identified and incorporated into design package for the proposed road works.*
2. *Prior to obtaining a Crown Certificate for the works, Road 12 Innovation South (east of Innovation West intersection), into the Sydney Metro construction area is to be provided with a driveway lay back vehicle entrance to the Shared Zone on Innovation South, restricted to emergency and service vehicle use only.*
3. *Pavement design of vehicle circulation areas, including the bus turnaround at the southern end of Innovation East, must be designed to support and withstand bus movement. Pavement areas are to be reinforced concrete jointed pavement in accordance with RMS Specification D&C R83 – Jointed Concrete Base.*
4. *Final cross-sections of all proposed roads must be provided to TfNSW for review.*

Liverpool Local Traffic Committee

5. *Any traffic control device, parking, pedestrian and cyclist crossings and regulatory signage and line marking plans must be submitted to Council’s Transport management team to be presented to Liverpool Local Traffic Committee meeting for endorsement and Council’s approval.*

Construction Management

Construction Environmental Management Plan

6. *A detailed Construction Environmental Management Plan must be prepared prior to commencing works by the Contractor. The detailed CEMP must include all measures provided in the current high level CEMP prepared by SMEC and attached at Appendix I. This plan must identify specific mitigation, safeguards and management and avoidance measures. These measures will be designed to avoid or minimise the potential indirect and direct impacts associated with the construction works.*
7. *A copy of the detailed CEMP must be provided to Sydney Metro for information purposes.*

Project Site Management

8. *The Head Contractor is to ensure adequate signage and temporary fencing is installed and maintained to restrict access and prevent unauthorised access to the Site at all stages throughout construction.*
9. *The Contractor will be required to install perimeter fencing to all external work areas.*

Working Hours

10. *The hours of construction, including delivery of materials to and from the Site, shall be restricted as follows:*
 - *Between 7am and 6pm, Mondays to Fridays inclusive; and*
 - *Between 8am and 1pm Saturdays; and*
 - *No noisy work Sundays and Public Holidays unless the project seeks approval to work these days.*

Construction Methodology

General Construction

11. *The Contractor will be responsible for the overall management of the Site and subsequently will be required to produce a site-specific Site Management Plan. The plan may include the following:*
 - *Providing written notification to the adjoining landowners and affected parties informing them of proposed scheduling of the works.*
 - *Clearly communicating and displaying the name of WPCA and Contractor using a WPCA approved NSW Government branding (including the name and details of a contact person).*
 - *Providing notice to Council of the intended time for commencement of the works.*
 - *Compliance with local construction working hour requirements.*
 - *Maintaining a copy of the REF Conditions on-site throughout the entire construction phase.*

Site Induction, Briefing, and Security Awareness

12. *All personal must be inducted onto the site in accordance with the CEMP, Incident Management Plan and the Site Induction provided by the contractor and recorded.*
13. *The contractor is to further ensure all personnel have site familiarity knowing of amenity, site office and access locations as well as knowledge and understanding of the CEMP.*
14. *Training and awareness shall be provided by the contractor to ensure the full extent of the Erosion and Sediment Control Measures outlined under the CEMP is implemented at site and along with emergency response training to ensure the proper protocols are followed in such events.*

Safety and PPE

15. *The Contractor will be delegated the responsibility of Principal Contractor in accordance with the Work Health and Safety Act 2011 (WHS Act). The Contractor shall take all reasonable care*

and actions to meet its obligations under the WHS Act as contractually and legislatively required. In its role as an employer and site manager, the Contractor must maintain a working environment, which minimises all risks to the health and safety of its employees, Sub-Contractors, visitors to site and the community.

16. The Contractor will be required to fulfil this responsibility by complying with or exceeding all relevant industry and or Authority requirements, whilst attending to the following items:
- Identifying any risk related activities and ensuring procedures are followed to eliminate these risks.
 - Where risk elimination is not possible, controlling foreseeable hazards or risks.
 - Complying with relevant Work Health and Safety, workplace industry management and workers compensation legislation and regulations.
 - Providing appropriate instruction, inductions and training for employees, Sub-Contractors, and visitors to site.
 - Compiling a Site-specific Work Health Safety Management Plan prior to commencing works on site.
 - Providing adequate facilities for employees at work sites.
17. Employee and Sub-Contractor responsibilities under the WHS Act include:
- Avoiding unsafe work practices including putting themselves or others in an unsafe position.
 - Adhering to the Personal Protective Equipment (PPE) site requirements of the Head Contractor's WHS Management Plan.
 - Reporting unsafe behaviour and/or potentially unsafe site conditions while on site immediately to the WHS representative.
18. The Contractor is required to provide adequate training of its employees, Sub-Contractors and site visitors including mandatory site inductions. The Site induction should make all parties aware of their site responsibilities and may include the following:
- Implementation of safe work method statements (SWMS) for all activities prior to commencing these activities.
 - Implement pre-start checks for all plant.
 - Encourage all personnel to report possible hazards and near misses to promote a safe work culture.
 - Emergency evacuation, mustering and response plans shall be prepared and implemented, including site inductions for all site personnel and visitors.
 - Hoarding or fencing should be erected between the work site and the public place if the work involved is likely to obstruct or inconvenience pedestrian or vehicular traffic – in accordance with Council requirements.
 - All work practices are to comply with SafeWork NSW requirements and the WHS Act.
 - Description of the Site works and layout.
 - Nominating restricted access areas.
 - Locating toilet and break facilities.
 - Location of site and safety signage.

- Document and induct site operatives of first aid arrangements, accident and emergency procedures and emergency evacuation routes.
 - Identify the Site WHS Representative.
 - Explain requirements for PPE.
19. It is the responsibility of the Contractor that all site personnel are aware of and adhere to all PPE requirements as per their WHS Plan. This could include the following:
- Safety helmets (AS1800 and AS1801).
 - Safety footwear (AS2210.1/.2).
 - Eye Protection (AS1336 and AS1337).
 - Ear Protection (AS1270).
20. Protection installations may include barricades, guards, fencing, footpaths, warning signs, lighting, watching, traffic flagging, safety helmets and clothing, removal of obstructions, protection of services and anything else necessary to be provided to:
- Protect people and property, adjoining properties, and trees not part of the project scope.
 - Avoid unnecessary interference with the passage of people and vehicles.
 - Prevent nuisance and unreasonable noise and disturbance.
 - Ensure that the works do not obstruct or damage roadways or footpaths and drains on or adjacent to the site.
21. Prior to works commencing on site, searching and verification of existing services is recommended. It is recommended to be performed in a grid basis to ensure completeness, and to be undertaken via various means including but not limited to:
- Review of supplied documentation.
 - Visual inspection.
 - The use of ground penetrating radar or alternatives (if required).
 - Consultation with Services Authorities (if required).
22. Each identified service is to be exposed by non-destructive techniques such as vacuum extraction, confirmed if still active, surveyed, marked and diverted if required.

Incident Management

23. The nominated principal civil contractor must ensure the development, implementation, and communication of their Emergency Response Plan to all team members, contractors, and visitors on-site.
24. In the event of an emergency, the Site Supervisor is responsible for executing the appropriate procedures outlined in their Emergency Response Plan and Safe Work Method Statement. Emergency incidents can occur during or outside regular working hours. It is imperative that personnel receive training on the procedures to follow during such incidents, and contact details for emergency services organisations should be provided to expedite resource deployment.
25. Any hazards or safety-related incidents, including injuries, accidents, near misses, or environmental issues, must be promptly reported to the Project Supervisor and WPCA in accordance with the contractor's Accident and Incident Management procedure. The Project Supervisor and the relevant Operations Manager will then report the incident to the appropriate authority and initiate mitigation measures as soon as it is safe to do so.

26. Following an incident or accident, an incident notification form should be completed as soon as practicable, with investigations and improvement actions to be carried out upon approval and authorisation.
27. A site evacuation has been prepared and is attached under Appendix F of the CEMP, this is to be reviewed by the principal contractor prior to commencement of work.

Completion and Handover

28. The Contractor will ensure that all demolition works are complete. A detailed Completion Plan will be implemented prior to Practical Completion.
29. Progressive site inspections by all consultants and the client representatives are required to ensure that works are carried out in accordance with the design documentation. The Contractor will require a project Quality Management System.

Emergency Response Procedure

30. A detailed Emergency Management Plan will need to be developed prior to site establishment works as part of the WHS Management Plan.

Environmental Management

Bulk Earthworks

31. The following management strategies outlined in the Salinity Assessment prepared by Douglas Partners and provided as Appendix X to the REF are to be implemented in order to minimise the potential impact on the bulk earthworks aspects of the development:
- When possible, placement of excavated soils in fill areas with similar salinity characteristics (ie: to place material on to in-situ soils with a similar or higher aggressivity or salinity classification).
 - Where this is not possible or not tracked, all fill areas should be treated as moderately aggressive to concrete and steel and moderately saline.
 - Testing should be undertaken prior to importation, to determine the salinity characteristics of the material.
 - It is recommended that non-aggressive and non-saline to slightly saline soils be selected where possible but, in any case, imported material should not be more aggressive or more saline than the material on which it is to be placed.
 - Management of sodicity should focus on capping of the upper surface of the sodic soils, both exposed by excavation and placed as filling, with a more permeable material (such as vegetated topsoil) to prevent ponding, to reduce capillary rise, to act as a drainage layer and to reduce the potential for erosion.
 - Sodic soils can also be managed by maintaining vegetation where possible and planting new salt tolerant species. The addition of organic matter, gypsum and lime can also be considered where appropriate.
 - Capping of exposed sodic material should remain the primary management method. Topsoil added at the completion of bulk earthworks is, in effect, also adding organic matter which may help infiltration and leaching of sodium.
 - Avoiding water collecting in low lying areas, in depressions, or behind fill.

- *Surface drains should generally be provided along the top of batter slopes to reduce the potential for concentrated flows of water down slopes possibly causing scour.*
- *Management of groundwater should include capping of the upper surface with an impermeable layer for proposed waterways and basins to minimise interactions with the very saline groundwater.*
- *All works will need to be undertaken in consideration of the Site Auditor approved asbestos Management Plan where potential unexpected finds are encountered during all future construction activities.*

Erosion and Sediment Control

32. Prior to any earthworks commencing on site, all erosion and sediment control measures will be implemented and maintained generally in accordance with the above specifications. The contractor will be required to modify the erosion and sedimentation control measures shown on the set of drawings to suit the actual construction programme, sequencing and techniques. These measures will include:

- *A perimeter fence around the site and a security fence is to be placed around any proposed temporary sediment basin as required.*
- *Construction of diversion swales to divert upstream clean water.*
- *Installation of sediment fencing around disturbed areas, including any topsoil stockpiles.*
- *Installation of silt arrestors to collect site runoff and retain suspended particles.*
- *Placement of straw bales around and along proposed catch drains and around stormwater drainage pits.*
- *Installation and maintenance of a stabilised access point at each site exit to avoid trailing of sediment onto the surrounding road network.*
- *Maintenance of the sediment basin.*
- *Stormwater pits: Provide straw bale filters and filter snakes to kerb & gutter.*
- *Stockpile: Silt fencing to be installed downstream side of any stockpiling*
- *Note: Silt Fences & filter snakes to be regularly inspected.*
- *Adequate erosion and sediment control measures are implemented prior to the commencement of construction and are maintained during construction.*
- *Construction site runoff is appropriately treated in accordance with the requirements of Liverpool City Council.*
- *As part of the works, erosion and sedimentation controls shall be constructed generally in accordance with the drawings, Landcom's Blue Book and Sydney Water's requirements.*
- *The bulk earthworks for the Stage 2A development will involve grading and road construction. All sediment and erosion controls will be maintained as required during construction.*
- *A temporary detention/ bioretention basin will be utilised as a sediment basin and maintained during civil construction to control soil loss.*
- *Sediment control plan should be designed and implemented in compliance with the Technical guidance for achieving Wianamatta-South Creek stormwater management targets (DPIE 2002).*

Waste Management and Disposal

33. Works are to be completed in association with the Waste Management (Refer to Section 7 of the CEMP) component of the Environmental Aspects table.
34. All waste material will be disposed of in accordance with the provisions of the Protection of the Environment Operations Act 1997 and the Waste Classification Guidelines (DECC, 2008).
35. Sufficient number of covered storage bins will be provided for waste disposal on site. Separate bins will be provided for recyclable and non-recyclable waste.
36. All general garbage from the work sites is to be removed at the conclusion of works.
37. All records will be retained as proof of correct disposal for environmental audit purposes.
38. Skip bins should be provided as necessary to contain waste material.
39. General waste to be disposed of offsite at an appropriate location.
40. Containment of spills by use of a bunded area for diesel fuel.

Biodiversity

41. The Biodiversity Strategy and Impact Assessment prepared by Biosis in August 2023 as part of the Masterplan is to be provided to the nominated principal contractor prior to commencement of works.
42. The contractor is to minimise removal of native vegetation and avoid disruption to existing riparian corridors. Where threatened species identified under the Biodiversity Assessment are encountered, the contractor is to flag this with the Principal for further instruction.
43. Recommendations to aid in the avoidance and mitigation of impacts to ecological values are included in Section 7 (Recommendations) of the draft Bradfield City Centre Master Plan BSIA (Biosis 2023). The relevant recommendations for the Stage 2A enabling works are included in the Biodiversity Report Addendum. These mitigation measures must be adhered to and are provided below:
 - Identify locations where Threatened Ecological Communities (TECs) and native vegetation is to be retained as No Go zones in a project Construction Environmental Management Plan (CEMP) or similar.
 - Install appropriate exclusion fencing to the boundary of the TECs and any construction areas where there is some potential for accidental encroachment. Include appropriate signage such as No Go Zone or Environmental Protection Area.
 - Any development within the study area would need to adhere to performance outcomes outlined in the WSA DCP. This WSA DCP includes several protections for biodiversity, native vegetation and plant planting that will ensure further impacts to native vegetation are minimised or remediated.
 - Ensure appropriate sediment control measures are put in place to ensure run-off during construction does not result in indirect impacts to native plant communities, particularly TECs.
 - Identify opportunities to revegetate impacted areas following development works. Revegetation works would need to follow the approved planting lists outlined in the DCPs and comply with the fauna management and mitigation measures outlined in the Western Sydney Aerotropolis: Wildlife Management Assessment Report - Final Report Revision 3 (Avisure 2020) and Section 10.2 (Wildlife Hazards) of the WSA DCP.

- *To prevent biosecurity impacts, in accordance with the NSW Biosecurity Act all practical steps should be taken to control and eradicate priority weeds from future development footprints prior to or during vegetation removal. A pre-clearance assessment may need to be undertaken to identify potential weed material and recommend appropriate treatment or disposal measures.*
- *Where required, removal of significant habitat trees should be preceded by a pre-clearance assessment, followed by a two-stage clearing process to minimise impact to native fauna as outlined below:*

Step 1:

- i. Surrounding shrubs and canopy to be removed and the hollow-bearing tree/s to be knocked by arborist or excavator and left standing for 24-48 hours prior to hollow-bearing tree removal, to allow time for fauna to escape and relocate naturally.*

Step 2:

- ii. Ecologist or arborist (if high in tree) to inspect hollows and/or habitat trees for the presence of fauna.*
- iii. Excavator operator or arborist to again knock or disturb the habitat tree prior to felling, with the intent to encourage the final movement of fauna out of hollows/nests.*
- iv. During felling, the tree is felled as carefully as possible and placed on the ground, for example branch-by-branch to allow for regular checks for fauna by the Ecologist.*
- v. Lengths cut from trees during felling should be divided in a manner that will preserve integrity of any hollows present and placed in retained vegetation to provide habitat for ground dwelling fauna.*
- vi. Any fauna displaced are either captured and inspected for injury prior to relocation in a pre-allocated area or allowed to self-relocate into adjacent retained habitats.*
- vii. Injured fauna is to be taken to a local veterinarian or a WIRES representative is to be contacted as soon as possible.*
- *Loss of hollows should be offset through the installation of compensatory habitat such as nest boxes. Nest boxes should be installed in the environment prior to clearing and offset a minimum of 2:1 ratio (nest boxes: hollows lost) as outlined in the WSA DCP. Any hollows removed should be reserved and installed in nearby environments to provide additional habitat for fauna.*
- *At least 60per cent of replacement habitat (i.e., nest boxes) is to be installed prior to the removal of a hollow-bearing trees.*
- *Wherever possible development should be avoided within the key fish habitat buffers associated with Moore Gully and Thompsons Creek.*
- *Impacts within the 50 metre key fish habitat buffer will require approval from DPI Fisheries.*
- *Works within 40 metres from top of bank of any mapped watercourse typically require a controlled activity permit from NRAR. Public authorities such as WPCA are exempt from the need to acquire a controlled activity permit from the DCCEEW for work on waterfront*

land. However, it is best practice to adhere to the VRZ detailed under the controlled activity guidelines.

- Ensure appropriate sediment control measures are put in place to ensure run-off during construction does not result in indirect impacts to the watercourse.
- Ensure No-Go zones are in place to protect any retained sections of riparian corridors.

Soil and Water Quality

44. The nominated principal contractor should implement comprehensive environmental management plans. These plans should include measures such as soil testing before disturbance, appropriate soil handling and containment techniques, neutralisation of acid drainage, and sediment control to prevent soil and heavy metal runoff.
45. If site workers or members of the local community come into contact with contaminated soil or hazardous building materials exposed during ground disturbance and demolition activities, the principal contractor must prioritize safety and environmental protection.
46. Immediate steps should be taken to ensure the well-being of individuals involved.
47. Medical attention should be sought for any potential health concerns, and a record of the incident must be documented for reporting purposes.
48. Simultaneously, the contractor should engage qualified environmental consultant to assess the extent of contamination, implement containment measures to prevent further spread, and develop a comprehensive remediation plan in accordance with Liverpool City Council regulations and environmental best practices.
49. Further assessment of the impact of the saline groundwater system is required to be undertaken at the detailed design phase of the project.

Groundwater Seepage Control and Water Quality

The below measures are to be implemented:

50. The nominated contractor is to investigate the installation of a network of monitoring wells to continuously track groundwater levels and quality during construction. This helps in identifying any adverse impacts early on.
51. The nominated contractor should modify construction plans to avoid impacting critical groundwater-dependent areas. This may involve changing the location of facilities, structures, or infrastructure.
52. The nominated contractor should develop contingency plans for unexpected events, such as equipment failures or extreme weather events, to minimize the risk of unintended groundwater drawdown impacts.

Vegetation and Tree Protection

53. The Contractor is to submit a Vegetation and Tree Protection plan prior to the commencement of works. The plan must outline the methodology to be implemented for the protection of trees and vegetation retained throughout the project works. Common methods of vegetation protection include, but are not limited to:

- All trees and vegetation that are to be retained should be clearly marked and protected prior to works commencing on site and protection measures are to be approved by a qualified arborist.
- Ecologist to be on site during clearing works.
- Trees to be removed are to be inspected by a suitably qualified person prior to removal.

- Any spread of introduced weeds etc. controlled quickly and effectively.

The Vegetation and Tree Protection Plan is to include the following management measures to minimise remaining vegetation loss:

- Do not park equipment or place stockpiles under the canopy of any retained vegetation.
- Tread carefully in densely vegetated areas and cautiously choose off-road parking and turning areas.
- Fence off limits of working area to prevent equipment and vehicles unnecessarily disturbing vegetation.
- Fence off any vegetation inside the working area which is to be retained.

Noise, Vibration and Dust

54. All construction works will be completed in a manner so as not to cause undue damage to adjoining infrastructure, properties, and waterways, and will be scheduled in accordance with the approved hours.

Particular attention should be given to the following activities:

- Loading of trucks.
- Truck operating noise.
- The use of heavy construction equipment.
- Activities that generate high levels of noise, likely to affect neighbouring residents/facilities.

55. The following measures to minimise noise are to be implemented prior to and during construction:

- Consultation with the residents should begin at an early stage to advise residents on works and to plan for the noisiest activities to occur during times of least disturbance for the residents, where possible.
- All equipment should comply and be maintained in accordance with EPA Guidelines.
- Report any excessively noisy equipment promptly to Site Manager so maintenance can be organised (keep record of Community Consultation in a register).
- When works must be completed that involve increased noise, work is to be arranged at appropriate hours to minimise disturbance to neighbours and decrease any reports/complaints that may be made.
- Choose suitable equipment and work methods to minimise overall disturbance and/or damage from vibration.
- Following site noise and vibration assessment investigations undertaken in July 2023, a detailed noise and vibration management plan was prepared, refer to Appendix A for report.

56. The mitigation measures outlined within the Noise and Vibration Assessment are outlined below and are to be implemented by the contractor throughout construction:

- Maximising the offset distance between noisy plant items and nearby noise sensitive receivers.
- Avoiding the coincidence of noisy plant working simultaneously close together and adjacent to sensitive receivers.

- *Minimising consecutive works in the same locality*
- *Orienting equipment away from noise sensitive areas.*
- *Carrying out loading and unloading away from noise sensitive areas.*

57. *Further, in order to minimise noise impacts during the works, the construction contractor will take all reasonable and feasible measures to mitigate the noise effects. The contractor will also take reasonable steps to control noise from all plant and equipment.*

58. *The following vibration mitigation measures will be implemented by the construction contractor:*

- *Relocate any vibration generating plant and equipment to areas within the site in order to lower the vibration impacts.*
- *Investigate the feasibility of rescheduling the hours of operation of major vibration generating plant and equipment.*
- *Use lower vibration generating items of excavation plant and equipment e.g. smaller capacity rock breaker hammers.*
- *Minimise consecutive works in the same locality (if applicable).*
- *Schedule a minimum respite period of at least 0.5 hour before activities commence which are to be undertaken for a continuous 4-hour period.*
- *Use only dampened rock breakers and or city rock breakers to minimise the impacts associated with rock breaking works.*

Air Quality

59. *The Contractor is to adhere to all air quality measures as depicted in the CEMP. Specific items to address include, but are not limited to, the mitigation of dust off the Site through the management of stockpiles and excavation areas. Common techniques to be considered are:*

- *Vehicle access to be kept to sealed roads or designated access points wherever possible.*
- *Trucks to travel at low speeds. Covering stockpiles with geofabric or similar material.*
- *Wet down stockpiles or access road.*
- *Limit machinery movements.*
- *Neighbours will be advised of the timing and duration of works likely to generate dust.*
- *Use of dust screens (shade cloth or similar on boundary fences).*
- *Do not burn cleared vegetation or other waste material or litter.*
- *Maintain machinery in accordance with manufacturers specifications so that emissions comply with the State Environment Protection Policy (The Air Environment).*
- *The Site Manager must be notified immediately if any dust complaints are received.*
- *If dust cannot be controlled, then cleared areas will be covered to minimise dust.*
- *All emission controls on work vehicles and equipment will comply with EPA requirements. Work vehicles and equipment will only be left idling when required for the operation of equipment.*

Flooding

60. *Whilst the site is not located in a flood zone, the Contractor will provide adequate erosion and sedimentary controls at all times during construction as outlined under this REF.*

Aboriginal Heritage

61. As outlined under the ACHAR, conservation of all sites with low and moderate potential is considered best practice. It outlines where surface artefacts have been identified the Aboriginal community should have an opportunity to relocate and collect them for reburial or relocation to a safe keeping place.

- An AHIP would be required to relocate any cultural artefacts associated with the listed AHIMS sites.
- To prevent unnecessary destruction and loss of archaeological material located on the ground surface, the Registered Aboriginal Parties (RAPs) should be provided with the opportunity to conduct a surface collection of Aboriginal objects across the mapped extent of the Stage 2A study area.
- Any artefacts recovered from a surface collection and test excavation programme are to be managed appropriately.
- The temporary repository of any retrieved artefacts is currently in a locked cupboard on the premises of Extent Heritage.
- Any items uncovered are to be either:
 - Reburied within the study area in an area not subject to future works. The reburial location would be recorded with a differential GPS and site card lodged to the AHIMS database.
 - The alternative option is that the artefacts are placed on permanent display within the precinct for the local communities to be able to view and interact with when required.

62. As outlined under the CEMP, the nominated principal contractor shall be provided a copy of the Statement of Heritage Impact August 2023, prepared by Extent Heritage prior to commencement of construction works.

- Management of uncovered heritage items:
- Should any relic, artefact, or material (including skeletal remains) suspected of being of Aboriginal or European origin be encountered, cease all work that might affect the relic, artefact or material.
- Protect the relic, artefact or material from damage or disturbance.
- Notify the National Parks and Wildlife Service.
- While not expected - should any item be encountered which is suspected to be a relic of heritage value, cease all construction work that might affect the item.
- Protect the item from damage or disturbance.
- Notify the Heritage Office

Non – Aboriginal Heritage

63. With regard to the management of historical archaeological remains an unexpected finds procedure should be put in place prior to the commencement of ground works.

Contamination and Hazardous Materials

64. The Contractor is expected to undertake appropriate additional testing and confirmation on the site, and to prepare a Contamination and Hazardous Materials plan prior to commencing works.

The Contractor is also to ensure consideration of the following has been undertaken:

- Any imported material used for earthworks filling shall be tested to validate the suitability of the material for use on-site.

OFFICIAL

- *High risk activities such as re-fuelling and machine servicing shall be performed in designated / bunded areas, not in the vicinity of any waterways or other environmentally sensitive areas.*
- *All construction materials are to be correctly stored in appropriate locations to prevent any leachate or hazardous materials migrating into adjacent horticulture greenhouses.*
- *All machinery is to be inspected daily and any leaks repaired.*
- *Chemicals, fuels & wastes will be stored in sealed containers.*
- *No chemicals, fuels, stockpiles, or wastes to be stored within Stormwater or natural drainage lines.*
- *As required, remove hazardous materials from site, provide waste depot dockets as evidence*
- *Containment of spills by use of a bunded area.*
- *Works to be done in accordance with this REF.*

OFFICIAL

Bushfire

65. To ensure future development can achieve compliance with PBP, the following requirements are to be provided:

- Stage 2A works related to the provision of infrastructure such as reticulated water, underground electricity and gas supply should meet the requirements identified in Tables 5.3b and 5.3c of PBP.
- Stage 2A landscaping works should be compliant with the Inner Protection Area requirements detailed in Appendix 4.1.1 of PBP to meet Asset Protection Zone Requirements of PBP.
- Stage 2A works are related to the provision of new roads. These should meet the requirements and specifications detailed in Table 5.3b of PBP. This includes perimeter road specifications where development is adjacent to existing, future or temporary hazards.

66. In addition to the above, the following points should also be considered:

- Existing access roads, including perimeter roads that support adjacent development should not be impacted by Stage 2A works.
- Existing reticulated water supply supporting adjacent development, should not be impacted by Stage 2A works.
- Landscaping should not result in an increased bushfire risk for adjacent properties.

67. In lieu of the above recommended design changes to the roads, alternative design specifications may be developed in conjunction with a bushfire consultant and RFS. In particular, concurrence from RFS is required for any roads which propose a variation to the acceptable solutions as outlined in Table 5.3B of Planning for Bushfire Protection (Roads 01, 05, 06).

Geotechnical

68. As per the Geotechnical and Salinity Assessment Addendum (refer to Appendix J) undertaken by Douglas Partners further detailed geotechnical investigation and assessment is required as the design of the development proceeds. The geotechnical investigation must include (but not necessarily be limited to):

- Further investigation for the specific basin and water quality structures proposed in the SIC.
- Additional pavement design test locations and CBR confirmation in areas where access was not permitted such as the properties to the west of Stage 2 and in the AMRF1 construction area. Confirmation CBR testing will also be required in filled areas during construction.
- Routine inspections and earthworks monitoring during construction.
- Detailed geotechnical investigations for the sewer services once detailed design progresses.

Traffic Management

Construction Traffic Management Plan

69. The Contractor is required to provide a Construction Traffic Management Plan (CTMP) prior to commencing works for WPCA approval. The plan is to maintain safe and adequate pedestrian and road traffic access within the surrounding road network and public domain.

The CTMP is to help explain how risks will be managed at the construction workplace. This may include details of:

- Designated travel paths for vehicles including entry and exit points, haul routes for debris or plant and materials, or traffic crossing other streams of traffic.
- Pedestrian and traffic routes.
- Predicted number of construction vehicle movements, detail of vehicle types and demonstrate that proposed construction vehicle movements can work within the context of road changes in the surrounding area, noting that construction vehicle movements are to be minimised during peak periods.
- Designated delivery and loading and unloading areas.
- Travel paths on routes remote from the workplace including places to turn around, dump material, access ramps and side roads.
- Details of crane arrangements including location of any crane(s) and crane movement plan.
- How often and where vehicles and pedestrians interact.
- A detailed plan of any proposed hoarding and/or scaffolding.
- Proposed construction hours.
- Traffic control measures for each expected interaction including drawings of the layout of barriers, walkways, signs, and general arrangements to warn and guide traffic around, past or through the workplace or temporary hazard.
- Requirements for special vehicles like large vehicles and mobile cranes.
- Requirements for loading from the side of road onto the Site.
- The responsibilities of people managing traffic at the workplace.
- The responsibilities of people expected to interact with traffic at the workplace.
- Instructions or procedures for controlling traffic including in an emergency.
- How to implement and monitor the effectiveness of a traffic management plan.
- Construction worker parking.
- Identify the cumulative construction activities of the development and other projects within or around the development site, including Sydney Metro Western Sydney Airport and private development. Proposed measures to minimise the cumulative impacts on the surrounding road network should be clearly identified and included in the CPTMP.

70. The CTMP should be monitored and reviewed regularly including after an incident to ensure it is effective and considers changes at the workplace. Workers should be aware of and understand the CTMP and receive information instruction, training, and supervision. The Site induction should cover the CTMP. The final plan shall be submitted to TfNSW for information purposes.

Pedestrian and Traffic Control

71. Where required, the Contractor is to engage suitably qualified and approved traffic controllers to undertake works in a safe and responsible manner. Traffic controllers are to always carry license tickets. Site-specific instances where traffic controllers could be required include:
- Providing safe passageway to pedestrians at the Site entrance
 - Ensuring the safety of community traffic near the Site entrance, particularly regarding site traffic entering and exiting the Site
 - Erect and maintain traffic warning signs for community cars/trucks, and pedestrians.
 - Requirements for traffic controllers are to be outlined in the site-specific Traffic Management Plan supplied by the Contractor.

Plant and Equipment

72. All vehicles used in traffic control operations will be equipped with the appropriate vehicle mounted warning devices in accordance with the RMS Traffic Control at Work Sites Manual. Plant required to be managed on site could include:
- Excavators, rollers, and other heavy construction machinery
 - Mobile cranes and oversize vehicles
 - Delivery trucks
 - Site personnel vehicles

Supplementary Plans

Work Health and Safety Management Plan

73. A Work Health and Safety Management Plan (WHSMP) is to be issued prior to commencement of works by the project team for WPCA review and endorsement.

Construction Environmental Management Plan

74. A Construction Environmental Management Plan (CEMP) is to be issued prior to commencement of works by the project team for WPCA approval.

Construction Noise, Dust, and Vibration Management Plan

75. A Construction Noise, Dust, and Vibration Management Plan is to be issued prior to commencement of works by the project team for WPCA approval.

Construction Waste Management Plan

76. A Construction Waste Management Plan (CWMP) based on the fundamental of the CMP is to be issued prior to commencement of works by the project team for WPCA approval.

Contamination and Hazardous Materials Plan

77. A Contamination and Hazardous Materials Plan is to be issued prior to commencement of works by the project team for WPCA approval.

Commissioning and Testing Plan

78. A Commissioning and Testing Plan is to be issued prior to commencement of works by the project team for WPCA approval.

Construction Traffic Management Plan

79. *Prior to the issue of any construction certificate or any preparatory, demolition or excavation works, whichever is the earlier, the applicant shall prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) in consultation with TfNSW.*

10 Conclusion

The Western Parkland City Authority is proposing to undertake a series of enabling works (referred to as the Stage 2A Enabling Works) associated with the delivery of Bradfield City Centre. Bradfield City Centre is located at 215 Badgerys Creek Road, Bradfield and is legally described as Lot 101 in Deposited Plan (DP) 1282949. The site is comprised of a single 114.9-hectare parcel of land and is owned by the WPCA.

The Stage 2A Enabling Works covers a site area of approximately 38 hectares of land within the broader Bradfield City Centre site, and involves delivery of new master planned roads, streetscape works, civil works and public utilities to be delivered in a staged construction scheduled to be completed by 2026.

The Stage 2A Enabling Works are focused on delivering fully serviced development blocks. This work includes bulk earthworks, civil road works, grading and levels for the site, all the public utilities, open space and street landscaping. Completion of these works will enable fully serviced super lots to be developed by WPCA or through private sector partners that will contribute to and support the early activation and place making for the Bradfield City Centre.

The proposed activity is prescribed under Chapter 2 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP)*, which permits development for the purposes of new roads and other essential infrastructure to be carried out by or on behalf of a public authority without development consent.

Specifically, the range of activities proposed as part of the Stage 2A Enabling Works is captured under the following provisions of the T&I SEPP:

- Section 2.109 of Division 17 -Roads and Traffic permits development on any land for the purpose of a 'road or road infrastructure facilities' to be carried out by or on behalf of a public authority without consent. This section also enables the provision of services utilities within the road corridor, permits earthworks in connection with the delivery of new roads, and the creation of new lots because of the new roads. Street landscaping elements can also be delivered in accordance with this section.
- Section 2.137 of Division 20 -Stormwater Management Systems permits development for the purpose of 'stormwater management systems' to be carried out by or on behalf of a public authority without consent on any land.
- Section 2.159 of Division 24 - Water Supply Systems permits development for the purpose of 'water supply systems' to be carried out by or on behalf of a public authority without consent on any land. This includes water reticulation systems.
- Section 2.44 of Division 5 - Electricity Transmission or Distribution Networks permits development for the purpose of an electricity transmission or distribution network. This includes above or below ground electricity transmission or distribution lines.
- Section 2.141 of Division 21 - Telecommunications and other communication facilities permits development for the purposes of telecommunications facilities to be carried out by or on behalf of a public authority without consent on any land. This includes fibre access nodes.

For the purposes of these works, WPCA is the Proponent and the determining authority under Part 5 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. While the proposed activity does

not require development consent, a public authority (being WPCA in the case of this matter) is required to assess the likely impacts of the proposal in accordance with the provisions of Part 5 of the EP&A Act.

In doing so it satisfies Section 5.5(1) of the EP&A Act which requires the Proponent to examine and consider to the fullest extent possible, all matters affecting, or likely to affect, the environment by reason of the activity.

Based on the consideration of the environmental impacts of the project and the information presented in this Review of Environmental Factors (**REF**), by adopting the mitigation measures identified in this assessment, it is unlikely that the proposed activity would significantly affect the environment and an Environmental Impact Statement (**EIS**) is not required.

Western Parkland City Authority

50 Belmore Street
Penrith NSW 2750

T: 1800 312 999
E: hello@wpca.sydney
W: wpca.sydney